



Unilateralist? Or one-sided? Semantics or survival? Karen Gold attends a study day held recently by the Cambridge University DISARMAMENT Seminar and reports on recent opinion polls on nuclear weapons (page 12)

"Did you smelt the tour gas this morning?" Higher education in SOUTH KOREA is in a volatile state and Korean governments have been known in the past to fall as the result of student protest. In the first of a series of articles, William Norris reports from Seoul (page 12)

Human interest: in the second of our series on ANTHROPOLOGY, R. T. Martin looks at the contribution of the biological anthropologists to our knowledge of the earliest history of the human species (page 13)

Among the subjects of new books on EDUCATION special needs, mathematics and private education, to examinations, foreign students and Northern Ireland (pages 19-23)

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Women's studies: special feature

Sam Piner on British voting

Top departments review: philosophy, geology, psychology, and mechanical engineering

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The war of Joseph's ear

There is a nasty little secret war being waged within government at present. It is over whether or not Sir Keith Joseph, the Secretary of State for Education and Science, should accept the recommendations of the Lindop report on non-university higher education. The real issue however is whether or not to execute the Council for National Academic Awards.

The war is between Sir Keith's constitutional advisers, his civil servants, and his Conservative advisers. Mr Oliver Letwin, his political adviser within the Department of Education and Science, and his coterie of freelance advisers gridding a few very sharp axes (the Open University, the Polytechnic of North London, the (ex) Social Science Research Council - and the CNAAs). As long ago as September Sir Keith's civil servants provided him with a draft of a reply to Lindop. They suggested that he reject the principal recommendation in the report, that some polytechnics should be granted quasi-university autonomy and allowed to award their own degrees, but also that he push the CNAAs into allowing its dependent institutions much greater freedom.

Sir Keith has been reluctant to accept that advice. He is much influenced by the contrary whispers in his ear from his Conservative confidants. They tell him that the CNAAs is an ineffective and wasteful bureaucracy that must not be re-created. They say that the council has been unwilling to uphold proper academic standards.

At the same time, the two social science degrees at PNL, which had to be "exposed" by RMI inspectors after the CNAAs had failed to remedy their unsatisfactory condition. Sir Keith's confidants also tell him that the CNAAs is an inefficient bureaucracy. Here they cite the critical Price Waterhouse report which the council itself commissioned and the large cash surplus that it has accumulated.

It has been a dirty little war. Sir Keith's unofficial advisers have used the press to bring extra political pressure to bear on the wavering Secretary of State. The most recent example was

a particularly tendentious article in last week's *Economist* which took a hatchet to dismember the CNAAs's reputation. The advice offered Sir Keith by his civil servants has also been linked, although it is difficult to see how its premature revelation could be in the interests of those who wish the Secretary of State to accept that advice.

The central arguments of the Lindop report seem to be playing little part in this war for Sir Keith's ear. The predominant issue does not appear to be the academic maturity of the best polytechnics, still less the fundamental mechanism by which quality can be assured so thoughtfully discussed by Sir Norman Lindop in an article we published last week. Instead it seems to be, for the civil servants, whether to advise the Secretary of State to reject Lindop, the danger that the Department of Education and Science will get sucked into the treacherous and infinite job of deciding which polytechnics can award their own degrees and, for Sir Keith's political friends who offer contrary advice, the alleged delinquency of the CNAAs. The council's sniffling brush-off of Buckingham's overtures more than 10 years ago, its failure to intervene in the PNL troubles which took back at least as far as its idyllic acquiescence in the build-up of unwanted social science degrees in polytechnics, its blind toleration of leftist bias in degrees like the BEd - these are the damning charges which they are determined to press against the CNAAs.

Sadly the ugly origins of the Lindop exercise as a *judicial* *troubling* *room* in the PNL troubles seem to have reassured themselves. The opportunity for far-reaching debate on academic standards, how they are defined and how they are assured, is being wasted. The hope that the universities too might be drawn into a creative dialogue on these issues by linking Lindop and the parallel Reynolds inquiry into university standards is being abandoned.

Yet in the end these broader issues will have to be addressed. Those who urge Sir Keith to abolish the CNAAs, those in polytechnics who believe they

have long outgrown the council's apron strings, those who cast doubt on the effectiveness of university arrangements for ensuring that consistently high academic standards are maintained, they all must be able to suggest alternatives that work better. And Sir Keith, as the final arbiter, must choose between what will inevitably be conflicting prescriptions. For there can be no logic in introducing a new validation regime for polytechnics which relies on internal assurance of standards while undermining the much more securely founded university regime based on the same principle.

The Secretary of State has already taken longer to consider his decision about Lindop's recommendations than it took the members of that committee to write their report. His decision cannot be delayed much longer, especially as the cause of the delay is not some wide-ranging debate about the principles of validation but a secret sectarian squabble. The questions that Sir Keith must answer are simple. Does he believe that internal validation as practised by most universities is an adequate guarantee of academic standards? If his honest answer is yes, he is free to scrap the CNAAs. If his answer is no, he must reject the central recommendation of the Lindop report. He must also ask a second question: Does the CNAAs do this essential job of external peer review effectively and efficiently? If his answer is yes, he must leave the CNAAs alone. If his answer is no, then he must assume the responsibility for reforming it.

In practice, the outcome will be plain as the answers to these questions. In the end, Sir Keith must choose between two options. There is sufficient doubt about the effectiveness of the universities' oversight of their academic standards to make it impossible for him to scrap all external safeguards. Equally there is enough doubt about the effectiveness, and the flexibility, of the CNAAs to make it difficult for Sir Keith to leave the council entirely alone. So some formula must be constructed that rejects Lindop but bushes the CNAAs. But why need it take so long?

A less donnish UGC

The committee of inquiry into the University Grants Committee chaired by Lord Croomham has only just started work. In recent weeks its members have taken evidence from present and past chairmen of the UGC and others intimately involved in that committee's operation, but of course not even the fuzziest outline of their eventual report can be discerned at such an early stage.

Nevertheless certain desirable reforms must already have forced their attention on the Croomham committee, for its serious consideration if not automatic adoption. The first is that the UGC must be made less donnish. The committee must include more lay people and those lay members must be given a stronger voice. Inevitably that will require some degree of politicization of the UGC because lay members must be seen as the delegates of powerful interests rather than token representatives. The style of the UGC must also be made less like the common room and more like a debating chamber. More lay members would help to bring about this change, but it would also require changes in the way meetings of the committee are conducted.

The second is that the tail - the UGC subcommittees - should not be allowed to wag the dog - the main committee. If any valid criticism can be made of the UGC's response to the cuts crisis in the winter of 1980/81 it is that the committee allowed this response to be built up by a process of disciplinary accretion (or subtraction) through its subcommittees rather than imposing a coherent strategy to shape the details of its response. The danger is still there today. The new emphasis on selective support of research may encourage a similarly disintegrative approach to planning. The UGC subcommittees must be made firmly sub-

ordinate to the main committee and not allowed to regard themselves as semi-independent disciplinary fiefdoms.

The third is that the UGC needs a proper general staff with the intellectual capacity to create this coherent strategy and the administrative capacity to sustain that strategy. Here the most obvious weakness is the character of the committee's secretariat. It is not that UGC officers are without these talents - in most cases they possess them abundantly - but that the administrative style of the UGC encourages its officers to take a back-seat in the formation of policy. Traditionally this is seen as the prerogative of UGC members, with the result that the papers prepared for the committee must be among the least prescriptive in the public service. The solution therefore is probably not to mimic the different administrative style of the National Advisory Body, nor necessarily to remove the UGC secretariat from the Civil Service. The aim must rather be to bring about a back-seat in the formation of policy. Traditionally this is seen as the prerogative of UGC members, with the result that the papers prepared for the committee must be among the least prescriptive in the public service. The solution therefore is probably not to mimic the different administrative style of the National Advisory Body, nor necessarily to remove the UGC secretariat from the Civil Service. The aim must rather be to bring about a back-seat in the formation of policy.

Another important ingredient in any programme to give the UGC a proper general staff is the need to qualify the power of its chairman. This proposal may strike some as paradoxical. But the UGC cannot get by as a professional planning agency on the charisma and panache of its chairman. What it needs is institutional dynamism that is coherent and sustained rather than personal dynamism which is liable to be ephemeral and is likely to be capricious. There are great dangers in moving towards a position where the chairman and a minority of members run the show, in close contact with the permanent secretary at the Department of Education and Science, while the majority of the committee is re-

duced to a condition of silent but sullen dissent. So a better way to bring about a back-seat in the formation of policy is to ensure that the UGC's full-time chairman and its part-time members.

Even if the Croomham committee accepts these three broad objectives it still has to address a large number of detailed issues and discuss how they help or hinder these goals. The debate about whether or not the UGC secretariat should remain part of the Civil Service has already been mentioned. Here the conventional wisdom is that at the very least substantial recruitment of outsiders (really insiders, from universities) will be necessary. Another issue is whether the membership of the UGC should be representative. To this the conventional wisdom is hostile, but the experience of the NAB suggests that open representation of special interests may be a lesser obstacle to change than closed clubbiness.

But the most important issue that the Croomham committee must address is very simple. The UGC at present is based on a traditional view of the proper relationship between universities and the state that is out of date. No future Government - Labour, Alliance or Conservative - is going to accept that old view, and go back to that old relationship. Yet the constitution, or rather non-constitution, of the UGC, its donnish character, its particular administrative style, are all derived from that old view and that old relationship. Can the character of the UGC be manipulated so that the committee can adapt to the much more direct and intense relationship between universities and the state that is now inevitable, without abandoning all political and administrative sense of the necessary separation between the two? That is the question that Croomham must struggle to answer.

Laurie Taylor



Is everybody here? Yes? Well, may I welcome you all... I'm sorry, could someone close the door at the back... thank you very much... look, there's really no need for anyone to stand... there are still seats here in the front row... that's fine... yes, do come forward. Now, as I was saying, may I welcome you all to the Fourth Combined Conference of University Information Officers and Allied Trades. I hope that you all had a pleasant journey and enjoyed what, I must say, seemed a particularly splendid lunch.

Cries of "Hear, hear". May I open the proceedings by introducing our distinguished guests. Firstly, on my immediate left is Mr Norman Bland, the recently appointed head of the Public Relations Office of the UGC. As you will recall this was an appointment recommended by the SCUJO. For the benefit of new members - and I can see quite a few new faces in front of me as I speak - that's the Standing Conference of University Information Officers. So I'm certain that all of us here, information officers,

only regard Mr Bland as a welcome addition to our ranks, but also recognize the extraordinary complexities of the task which lies ahead of him and his team of five associates - no less than that of explaining and justifying the expenditure and distribution of UGC money and the policy thinking behind it. Mr Bland, may I, on behalf of this conference, wish you every success.

Warm applause.

May I now turn to my right, and with equal pleasure introduce another new face on the university information scene, someone with whom we hope to have the most positive and creative relationship. Dr Alec Smoothie, the newly appointed CVCP Public Relations Officer. Dr Smoothie's task, although obviously related to the work of individual university information officers, and to the recently formed association of Campus University Information Officers and the Standing Conference of Red Brick University Information Officers, is to help develop the all-round image of the university system as a whole. Welcome, Dr Smoothie.

Warm applause. Mr Bland, Dr Smoothie, ladies and gentlemen, we have a busy five days ahead of us: a conference programme which will include seminars and workshops on such diverse topics as "Using Local Radio to Advantage", "Updating the University Motto", and "Smartening Up Your Vice Chancellor".

But - and this, I feel, is by far our most pressing task - we have, during this short period together, to lay the foundations for a sustained campaign which will do something to counter the growing, and I believe, pernicious, belief, that the present financial crisis in the university system could be most readily resolved by the prompt dismissal of everyone in this room... yes, do come forward... there are still one or two seats left at the front...

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Closures warning spelt out

by John O'Leary

At least eight polytechnics or as many as 15 large colleges might have to close if the Government sticks to its current spending plans, leaders of the National Advisory Body told the Secretary of State for Education and Science yesterday.

Members of the NAB committee approached yesterday's showdown with Sir Keith aimed with an analysis of possible student numbers in 1987/88, prepared by Mr John Bevan, the NAB secretary. This predicted a shortfall of more than £12 million on the amount needed to support the same number of students at current levels.

In a paper discussed by a NAB working group this week, Mr Bevan warned that the implied reduction of 22,774 full-time students throughout the colleges and polytechnics. He calculated that this was equivalent to the entire annual intake of four or five polytechnics, or eight to nine major colleges.

At the meeting, however, he said that the number of polytechnics which would actually be threatened was eight, since it was unlikely that the largest polytechnics would be closed. "We had simply underestimated the awfulness of the position," Mr Bevan said.

As the ordering of a relatively steady state system overlaid with some "fire brigade" action, the current round is beginning to have all the characteristics of hillside forestry clearance: difficult, potentially dangerous and needing an axe. His paper concluded: "The NAB secretariat has been asked to prepare a new paper, presenting the options for applying the cuts to institutions. It will consider how many colleges and polytechnics might have to close, while a second paper will examine the options for differentiation between subjects."

Mr Bevan's report showed that the current policy of guaranteeing level funding and constant student numbers in a range of scientific and vocational subjects would mean cuts of more than 58 per cent in other disciplines. If all subjects were treated equally, the cut would be 12.26 per cent.

The economies required would be twice as harsh as had been predicted at the outset of the planning exercise for 1987/88 because the NAB committee is committed to holding funding levels at their current value, despite a £15 million shortfall in next year's budget. The cuts would be even worse if inflation exceeds 3 1/4 per cent.

Mr Bland was "disappointed in the lack of vision displayed in the Green Paper", he said in his response to the document. It noted that only two of its 10 key recommendations had been accepted without qualification and five had been effectively rejected.

'Urgent need' for single Scottish body

by Olga Wojtas
Scottish Correspondent

A Scottish Higher Education Council to run the whole system, universities as well as central institutions and colleges of education, is the centre piece of the report of the Scottish Tertiary Education Advisory Body which was published on Monday.

All the council's members agree there is an urgent need for a single body to plan Scottish higher education. A majority is prepared to go further and recommends that this new council should assume direct responsibility for the eight Scottish universities and that their funding should be transferred from the Department of Education and Science to the Scottish Office.

The council, however, insists that three safeguards must be met before such a transfer from London to Edinburgh is allowed to take place - that the universities will still be included in a United Kingdom-wide peer review system, that they will retain access to research council funds, and that their present proportion of the total university budget will be maintained.

Three should close:

- the big central institutions should be grouped in a new Scottish Institute of Technology;
- The Scottish Education Department should plan according to the higher rather than lower of its two variants of future student demand.

The universities are split over proposals that their funding should come through a new body responsible for the whole of Scottish higher education.



Defining women's studies, i-iv

Glasgow University's principal, Sir Alwyn Williams, a member of STEAC, has issued a personal statement supporting the proposal, which contradicts Glasgow's evidence to STEAC that it wished to retain funding from the University Grants Committee.

The Scottish universities are in danger of relegation now that the UGC is discussing rationalization and co-operation with the public sector National Advisory Body, which has no counterpart in Scotland, Sir Alwyn says.

He stresses the need for the three guarantees listed by STEAC but Dr J. Steven Watson, principal of St Andrews University, said Sir Alwyn's statement "sent an absolute shiver of dread through me. Each of his guarantees seems as strong as a cobweb".

Aberdeen University's principal, Professor George McNicol, has condemned STEAC's proposals as an unnecessary leap in the dark. "I have grave reservations about the dangers involved in being pulled away to a much smaller, closed, inward looking system."

At Stirling University, principal, James Stewart, says: "I hope Scotland will be seen as a new stabilizing force."

STEAC's vice chairman, Dr Tom Bone, said the council had no wish to see the Scottish universities' funds reduced or their international standing decline. If the proposals went ahead, they would mean planning and being carried out openly by a representative body, with the SED surrendering a great deal of its power with regard to the CIs and education colleges.

But the Association of University Teachers (Scotland) has said tertiary education should be run through the UGC and a MacNab.

College of education staff have attacked STEAC's recommendation that three of their seven colleges should close. Mr George Livingstone, chairman of the Association of Lecturers in Colleges of Education in Scotland, said: "What appals us is that having accepted the clear educational arguments for the existing college system, the council then reaches an insupportable view that further contraction is necessary."

Dr George Younger, the Secretary of State for Scotland, has asked for comments on the report by the end of March.

Future Strategy for Higher Education in Scotland. HMSO, £9.80.

Details, page 6
Leader, back page



This vintage cake was made by hotel and catering students at Brighton Polytechnic. On top of the cake is a vintage car, constructed by the students entirely from icing sugar and gelatine. Car and cake were to reverse the normal London to Brighton vintage car route, to be auctioned off for charity in London. The students pictured with the cake are (left to right) Danae Jordan, Sally Burgess, Kate Francis, Kerry Lang and Louise Heaton.

proposed for nuclear lab

by Jon Turney
Science Correspondent

Britain is proposing a "joint independent review" of the CERN nuclear physics laboratory in Geneva to other subscribing nations, to safeguard our role in new European collaborations.

Earlier this year a British review group under Sir John Kendrew called for a 25 per cent cut in UK spending on particle physics. But the new under-secretary for higher education, Mr George Walden, is treading carefully to avoid jeopardizing other agreements.

This week in Brussels Mr Walden signed a memorandum bringing France and Italy into operation of the Science and Engineering Research Council's £60 million neutron source ISIS in Oxfordshire. And he also agreed with Franco, West Germany and Italy that Britain will contribute to the design and planning of the proposed European synchrotron radiation facility, to be built in France.

The SERC badly needs extra contributions to help run ISIS and the machine's future will be decided by a new three-nation council intended to

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change in tenure law

by Ngao Croquer

The Government is to introduce retrospective legislation to amend the "good cause" (gross misbehaviour) provisions for the dismissed of university academic staff.

This will be part of the proposed new laws to limit job tenure for university lecturers, details of which were announced this week.

The tenure legislation will not be retrospective but will apply only to new appointments and to permanent staff who are promoted. Staff moving to another university job of the same grade would be able to retain tenure.

The Government's consultation paper proposes the appointment of three commissioners who would be empowered and required to amend university statutes and charters to allow dismissal for redundancy or financial exigency.

The commissioners would decide the procedure to be used but would be required to consider any representations from people affected by the legislation.

They would have the power to incorporate provisions to safeguard academic freedom, which the paper defines as "freedom to research, publish and teach without being subject to victimization because of the nature or content of what is researched".

The Committee of Vice-Chancellors and Principals and the Association of University Teachers have been asked for their comments by the end of February.

Vice chancellors will publish guidelines next week stressing the fundamental importance of freedom of speech and lawful assembly to the universities, but say these are not absolute rights.

The paper will say that freedom of speech must be "made available to people of all views, but recognizes that because of physical and geographical problems, disruption of meetings is inevitable."

Concern over shortage subjects as PGCE applications fall

by Carolyn Dempster

Applications for Post Graduate Certificate of Education courses across the binary divide are down by 20 per cent this year.

The disturbing drop is reflected most in applications for secondary courses, at last count 26.5 per cent lower than last year's figures. Primary courses, usually oversubscribed, are also showing a slight decrease of about 7 per cent in applications. Closing date for submissions is December 15.

Colonel Massey, director of the Central Registry and Clearing House which processes all PGCE applications for universities, polytechnics and colleges and institutes of higher education, said the decrease was significant in view of the fact that the 1984/85 applications were the lowest for five

years. "Although we started at a good pace last year, we were not aware we were going to end up with a marked reduction in numbers. This year, we are showing a decrease right from the word go," he added.

The Clearing House has received some 10,100 applications overall compared to the 1984/85 figure of 12,500. In a good year, says Colonel Massey, the total number of applications might be expected to top 18,500.

Secondary age range courses include the shortage subjects of mathematics, chemistry, physics and the applied sciences, he said. "We are going to experience continuing difficulty recruiting for all secondary courses, with a narrowing field of recruits and a lower quality of applicants."

A comparative analysis of applica-

tions for BEd courses is more difficult because the Clearing House has changed its procedural methods over the past year. However, on the basis of the number of applications in on November 29, there was a deficit of 8 per cent compared to the 1984/85 national figure.

But with the deadline for applications fast approaching, the Clearing House has been inundated with last-minute submissions. Something in the order of 6,000 applications have already been processed with a backlog of a further 3,500. "On the basis of these tentative figures it does not appear that last year's trend towards a decreasing number of applications has in any way been arrested," added Colonel Massey.

The teachers' industrial action has

certainly not helped the image of the profession, but it was purely hearsay that careers officers were guiding students away from a teaching career, he said.

The autumn returns of the Graduate Teacher Training Registry show that 20 of the country's 30 university departments of education failed to meet their intake targets, with under-recruitment in some faculties running as high as 38 students. Lack of maths and science applicants or suitable applicants in the scarce subjects are cited most often.

In a letter to Sir Keith Joseph, the Secretary of State for Education, London Institute of Education director Professor Denis Lawton describes the rate of under-recruitment as "alarming".

The paper will say that freedom of speech must be "made available to people of all views, but recognizes that because of physical and geographical problems, disruption of meetings is inevitable."



Having just been tapping the buttons on my lightweight modern press-button telephone to little effect I have stormed across the house to try my hand with the out-of-date revolving dial machine with no greater success and have concluded that the best way to recover my equanimity is to sit quietly at my typewriter and discourse about telephones.

Of course what I am being driven mad about is not the shape of the telephone but its perverse determination not to get through to the other end. I am sure it behaves worse for me than for anybody else, as soon as I set my hand to a telephone it goes wrong and I don't suffer from paranoia whatever everyone else may think.

The standard telephone that we have all become used to - one hand-set with a mouthpiece at one end and the earpiece at the other - was established in the 1930s with remarkably similar results in Britain, the Continent and America. The Siemens model of 1929 was made by their English factory for the GPO and revised in 1931. The German model, the Fuld telephone of about 1930, looked characteristically hard and efficient.

The American model was the famous Bell telephone designed by Henry Dreyfuss. With that Dreyfuss produced the first really standard telephone, with letters and numbers in each hole; his later version of 1935 looks so familiar that it hardly produces any more impressions.

I drew some of the first anthropometric drawings of people with detailed dimensions for standing and sitting; his book *Designing for People* 1955 became a standard textbook for designers.

That makes it all the odder to me that the standard telephone that emerged from all that thought should be so inconvenient.

I remember the telephone in the 1930s in our house when I was a small boy. It was a huge wooden box hanging on the wall of a narrow passage, with a mouthpiece sliding out of the front and an earpiece hanging by a flex from the side. We were terrified of it and thought that electricity might be leaking from it all over the floor, like Thurber's aunt, so we rushed past it quickly in case it should ring.

We were not alone in having such a monstrous machine. If you look through Stephen Bayley's study of 1960 *In Good Shape* you can find some of the old telephones that had a lot more character. The pedestal telephone that I remember well was very convenient and of course you can still have one of those.

Much more fascinating was the Norwegian model of 1904 with its handset cradled handsomely on top of a box which contained the bells. But that was only a cleaned up version of the roccoco model of 1893 which had lions-paw feet, lots of decoration all over the handset, a handle at the side (to wind it up?) and a couple of nice round bells side by side on the front like a couple of breasts.

What an experience using it that must have been. The telephone may be "the most widely used device in modern living", capable of sustaining love affairs by wire, an illusion which should never be shattered by actually meeting the voice from the other end; but making the telephone itself a sensuous object was to give it a profound symbolic significance.

Patrick Nuttgens

Letters to the editor

Polys still the poor relations

Sir, - Your leaders (*THE* November 22 and 29) seek to discuss higher education resource problems in political and quasi-philosophical terms. What you totally ignore with such questions as "why should the public sector be ruled by external and arguably alien (university) norms?" is the desperate financial plight of most local authority higher education institutions.

The following are just a few examples of the consequences of the lack of adequate resources in colleges and polytechnics: closure of libraries at 4pm and no weekend opening; closure of advanced laboratories because of the lack of technicians; first-year seminar groups with up to 30 students; non-replacement of key staff, particularly in industry and management related subjects; cleaning and maintenance well below acceptable standards; the transfer of whole research teams to the universities. These and similar problems are not solved by the institutions striking a balance between "the competing claims of quality and access in harmony with their own purposes".

It is in this context that I ask why we are accused of "obsessive envy" when we seek to point out the vast disparity between local authority higher education funding and that of universities. Our degrees are required by our employers and expected by the general public and employers to be of a standard comparable with that of universities.

Marginal differences of funding would allow for comparable standards.

Differences of £1,500 per student unit do not. Even if you accept the notion that 30 per cent of the universities' grant is for research and assume that no research is done in local authority institutions, the student unit cost in the universities in 1986-7 will be £3,060 compared with £2,550 in local authority higher education (DES figures).

However, the relative disadvantages do not stop there. The recent engineering "switch" programme gave no funding to local authority higher education in phase I and in phase II, even though the National Advisory Body made it clear that a special feature of the programme would be that priority would be given to the cost-effectiveness of the proposals. The 17 universities received £20.7 million for 680 undergraduates and 34 postgraduates while the eight polytechnics and colleges received £5.7 million for 285 undergraduates and 83 postgraduates - ie the universities will receive more than twice as much per student as the local authority institutions.

The capital allocation to universities this year is twice that available for the whole of local authority higher education, even though the numbers of students in the two sectors are approximately the same. The situation next year will be even worse since the capital allocation which is to be increased for the universities is to be reduced for polytechnics and colleges from the £37.5 million anticipated by the NAB to £32.5 million. This, in equipment terms, means that many engineering and science laboratories will be falling well below the standard

expected by professional bodies and industries.

You ask if the polytechnics are content to be slotted into a lower division of a university league. The experience of former local authority institutions that are now universities, eg University of Bath (Bristol Tech), University of Surrey (Battersea Polytechnic), and University of Loughborough (Loughborough 'AT'), now well staffed, housed and equipped and attracting very able students, does not suggest that the move results in second division status. In any case, even the less well regarded universities are substantially better resourced than the polytechnics and colleges.

You accuse polytechnic and college leaders of "playing into the hands of those who have sought successfully to divide and so to rule higher education". Unlike *THE*, the leaders of the local authority institutions have not supported the divisive "binary policy". As with other forms of apartheid it always separates and is never equal.

It is not envy which motivates us but a concern that our students receive a first-rate higher education in any subject we offer and that the sector of higher education most closely associated with industry, management and the professions should be resourced at a level sufficient to attract and educate the most able in the subject areas related to wealth-creating activities. Yours faithfully,

R. M. W. RICKETT, Director, Middlesex Polytechnic.

Lower PhD horizons

Sir, - Undoubtedly it is not as possible, but a reasonable expectation for someone to write a thesis in the years when that consists of reviewing the literature, a critique and perhaps some archive work. Similarly, work on a well-defined project within the scope of an established laboratory team should not tax the well-organised young researcher. Unfortunately, as these things - and often they do have a supportive team but have to develop their empirical project in isolation.

The young person who can do this three years is either exceptionally organised or exceptionally lucky - the figures which ESRC compile about clearly demonstrate. It is not a moral problem, as some imply, but a question of failure to set reasonable expectations and to define exactly what the role of the PhD should be at the moment, we are behaving as though it should be the life's work rather than a period of apprenticeship which shows that the student is competent to become a professional researcher.

The linked studentship scheme was an attempt to create in social science the close-knit supportive team to environment which can be found in the natural sciences. This is eminently desirable as a step to ensuring that the student and supervisor are at least on the same wavelength, but does not solve the problem of excessive repetition.

We need to establish sensible criteria; a relatively short, self-contained piece of publishable work. This demonstrates that the student has some idea of how to use research articles, and how to read journal articles, and how to read journal articles. It is not the best way to demonstrate competence for the majority of young researchers.

Yours sincerely, ILEEN WEINBERG-HASTE, Senior lecturer in psychology, University of Bath.

Keele merger

Sir, - The following extracts are taken from the *Keele Gazette*, an internal university newsletter.

"The vice-chancellor, Professor Brian Bender, said that there was no element in the proposals to merge Keele with the North Staffordshire Polytechnic, which is a response to outside pressures. He said that Keele was under no threat whatsoever from any outside official body."

"He went on to say that the whole university system is under considerable pressure. The present Government's official policy was to impose a further overall cut of 2 per cent and the University Grants Committee had been requested to go even further."

"He said that smaller universities, especially those that have already been hard hit by the cuts, will find life particularly hard in the future. This applies not only to Keele."

"The implication is surely that, faced with the outside pressures of the Government's official policy (an 'official body' if there ever was one), and the threat of further education cuts hitting hard into Keele, a merger with North Staffs Poly is a solution to limit the damage."

"The immediate loss of over 1,500 students, the loss of the special admissions policy of the polytechnic, the loss of its local democratic control, and the loss of the unique broad education of Keele should all be matters for deep local and national concern."

"There are some good parts of the merger report, but we should demand firm assurances on future funding, on a special local admissions policy, and on a broad-based education, before we are expected to consider them seriously."

Yours sincerely, STEVE SIMMONDS, Students' Union, University of Keele.

Oxford blasts cutbacks

by Peter Aspdon

Oxford University has launched a scathing attack on the Government for its deliberate under-funding of universities, which it claims will cause serious damage over the next four years.

The salvo came in the university's response to the University Grants Committee's research selectivity exercise. Like all universities, Oxford has prepared a statement of its research plans and overall objectives under the terms of the UGC's May letter - but it prefaced the statement with a stinging criticism of the Government's higher education policy.

It said: "We cannot forward this document to the UGC without expressing in the strongest terms our sense of outrage that all universities are being required, as a result of premeditated Government policies, to submit contingency plans for a four-year period of impoverishment."

The statement added that universities were likely to face a reduction in income of 4.5 per cent in 1986-7, not 2 per cent as predicted in the UGC hypothesis.

"Let there be no mistake: cuts of this order would be seriously damaging. To some extent our size will mean that they would affect the quantity of research and other intellectual activity rather than its quality, but there would come a point at which reductions in the one inevitably merged into loss of the other."

"We should strive to maintain the standards of our academic work, but those standards would come under heavy and increasingly pressure resulting from the overburdening of all academic and supporting staff, and from mounting shortages affecting equipment, libraries, buildings and research overheads."

"Financial cuts by implementing a massive drain on reserves which are already too small for safety."

"Whether in the event it will be seen that we have been unwise to weaken our financial base in this way will become clear only when it is known what funding will be available in the 1990s."

"It is a fundamental difficulty of the whole exercise that we are being asked to show how we should jump across a gulf the other side of which we cannot see."

Continued from front page

arrange for joint European funding. Signing for the design phase of the ESFR, at a cost of £300,000, is an important step towards full participation in the £75 million machine - in which France and Germany are taking the lead.

Mr Walden discussed the Geneva laboratory, now costing Britain £35 million a year, with the French, German and Italian research ministers in Brussels, and in separate meetings this week in Rome, Oslo and Vienna.

Britain has not yet specified what a joint European review would consider, but the most likely outcome is an examination of the scope for cutting costs at CERN, and for spreading the subscription burden among more countries.

Other European nations may be receptive to cost-cutting proposals at CERN to free extra cash for facilities like the ESFR for "condensed matter" research, which has direct industrial applications in areas like materials science.

The ESFR, which will be used as a source of intense X-rays by researchers in physics, chemistry and biology, is seen as a follow on from the SERC's own synchrotron radiation source at Daresbury in Cheshire.

The machine should be sited near the Institut Laue-Langevin at Grenoble, by agreement between France and West Germany.

France and Germany will put up two-thirds of the capital cost of the ESFR. The rest will have to come from Britain, Italy and other contributors. It will be the fourth in a package of condensed matter research facilities in Europe - including ISIS, the SERC's synchrotron radiation source, and the high-flux neutron reactor at Grenoble.

Doubts over more 'star wars' cash

by Jon Turney
Science Correspondent

The first British university contract for work under the US strategic defence initiative - "star wars" - was finalised this week. But there is little indication how much further British academics will get involved in the multi-billion dollar project for a shield against ballistic missiles.

The Pentagon is going ahead with a £190,000 contract for work on optical computer circuitry with Heriot-Watt University and Ferranti computer systems. The work falls in one of 18 research areas in a memorandum of understanding signed last Friday by the British defence secretary Mr Michael Heseltine and his US opposite number Mr Caspar Weinberger.

Details of the memorandum, which covers conditions for publication, exchange of information and allocation

of intellectual property rights, have not been released, but the research areas include other work in advanced computing, lasers, new materials, sensors, and particle beams.

The last area is closely tied to accelerator technology, a particular expertise of the Science and Engineering Research Council's Rutherford Laboratory in Oxfordshire. But the SERC's secretary Dr Ashley Catterall said this week the council had not yet considered its role in the SDI, and no approaches to do work in its own establishments had been made.

Some other university groups have already tried to distance themselves from star wars-related work, notably the computer science group at Imperial College, London, working on the Alvey programme's Flagship project. But the researchers on Flagship failed to get an assurance from the companies involved in the £15 million

project - Plessey and ICL - that the work would not be put to military use when contracts were signed last week.

The main emphasis of Mr Heseltine's comments after reaching agreement with the US was on the hope of industrial contracts for Britain. As the memorandum does not include any target figures, assessing the final impact of SDI research contracts on research here is impossible. It depends on how many other countries make similar agreements and in how many fields America feels the need for outside help.

Even a few per cent of next year's Congressional appropriation for star wars research of \$2,500 million would make a big difference in a few key areas. The British ministry of defence, for example, spends £380 million of its £2,000 million plus research and development budget on research. But the

US cash will have less impact if spread more evenly.

However, there may be problems for many companies choosing between SDI work and the new European Eureka initiative in civil high technology in areas where key skills are in short supply.

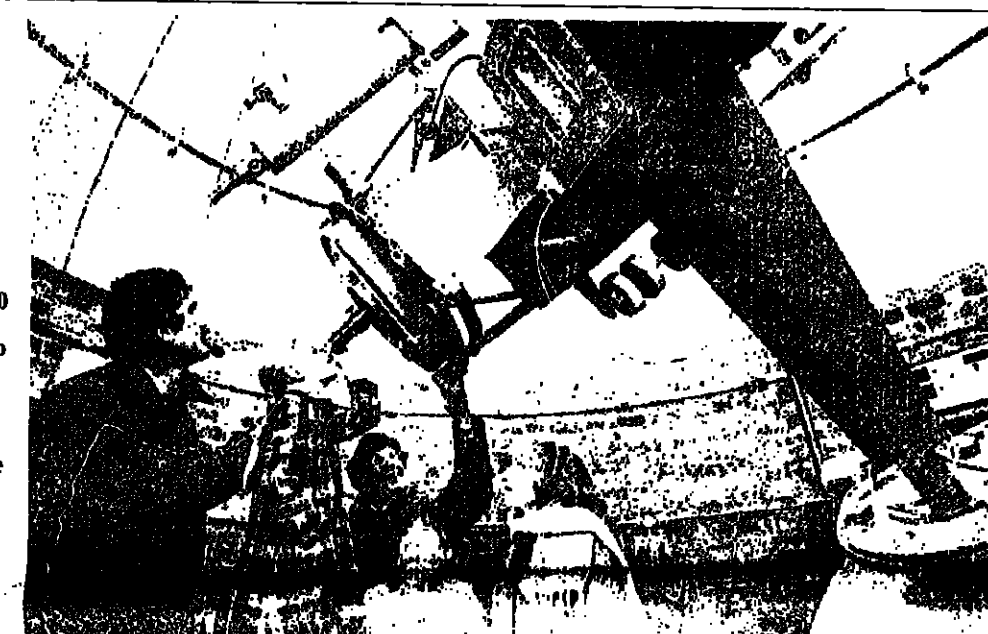
The former chief scientific adviser to the Ministry of Defence, Sir Ronald Mason, said at the Royal Society last week that the fundamental problem for Western Europe was resource allocation between the SDI, Eureka and other civil technology programmes.

The still largely undefined Eureka programme has not attracted any significant extra funds from the 18 European governments involved, although it was originally conceived as a response to the prospective boost for US high-technology industry from SDI dollars.

Stargazing has become a popular pastime at Hatfield Polytechnic's observatory since the appearance of Halley's comet.

The observatory near Hatfield was swamped by more than 15,000 applications when it offered to arrange public viewing sessions.

Among the lucky enough to secure four of the 2,000 tickets allocated were the Twin family from Hatfield. With them, centre, is the observatory's



Unesco pullout leads to sackings

by John O'Leary
and David Dickson

The Government's decision to withdraw from Unesco has been greeted with criticism from academics and many politicians. And in Paris, talks have already started on the cuts which will be needed in the organization's staffing as a result.

Mr Timothy Raison, minister of overseas development, explained the Government's decision to the House of Commons last week and gave an assurance that spending on international cooperation in the fields covered by Unesco would not be cut back.

There would be more support for education through the British Council, he said, in particular through extra spending on overseas students from poor countries.

Support for the inter-governmental Oceanographic Commission and the

International Geological Correlation Programme will continue and Britain will maintain observer status at Unesco, although not on the scale practised by the United States, which has permanent representatives in Paris.

Dr Ray Rickett, chairman of the education commission on Unesco, regretted the Government's decision, although he said that some members of the commission doubt that all the reforms agreed would be implemented by the organization. The commission had recommended a review of British membership in three years' time to assess what progress had been made.

Members of the Keep Britain in Unesco Campaign are to meet next week to decide what form future pressure to rejoin might take.

Unesco staff members held a one-day strike on Wednesday in protest at their lack of involvement in discussions over the distribution of staff cuts made

necessary by the US and UK withdrawals.

The decision to strike has taken almost unanimously at the mass meeting on Tuesday of more than 600 members of the organization's staff association, to which almost half of the agency's 2,500 Paris-based employees belong.

It followed the rejection by Unesco director-general Mr Amadou-Mahtar M'bow of the association's request, formulated at a meeting on Monday, that the staff be allowed to elect its representatives on a committee which is being set up to oversee how the cuts are carried out.

In addition to Wednesday's protest, the president of the staff association, M Bruno de Padirac, has started a hunger strike in order to draw attention to the danger that the redundancies may be applied in an arbitrary way.

Relocation plan threatens Bart's pre-clinical funding

St Bartholemew's Hospital medical school risks losing funding for its pre-clinical studies if a £13 million project in East London goes ahead without it.

Bart's has become increasingly suspicious of a plan to relocate its preclinical studies and those of the London Hospital medical college in a new building at Queen Mary College in the Mile End Road.

Its council has voted not to proceed with the project on the present terms, despite an impassioned plea from Lord Flowers, vice-chancellor of the University of London, who is known to be a keen supporter.

The project was identified by the university and the University Grants Committee in the wake of the Todd report, but the final consent for planning to be given only by the UGC in 1984. It involves the construction of a new pre-clinical building costing £9.6 million and a new library for QMC estimated at £3.35 million.

Following Bart's decision to pull out, both QMC and the London Hospital agreed to go ahead anyway - and the university's response to the UGC, discussed by senate this week, says that planning is going forward to ensure completion by 1990, with the original planned intake of 200 medical and 55 dental pre-clinicals.

Sir Peter Swinnerton-Dyer, chairman of the UGC, warned that if Bart's did pull out London university would have to make good the shortfall from the failure to dispose of parts of its Charterhouse site.

More seriously for Bart's, he said: "If the scheme goes ahead without Bart's, it can only be on the basis that future recurrent grants to the university will contain no provision for a separate pre-clinical school at Bart's."

He told Lord Flowers that there was no room for manoeuvre in the timetable, and that it was too late to change the scale of the project.

Bart's merger view, page 14

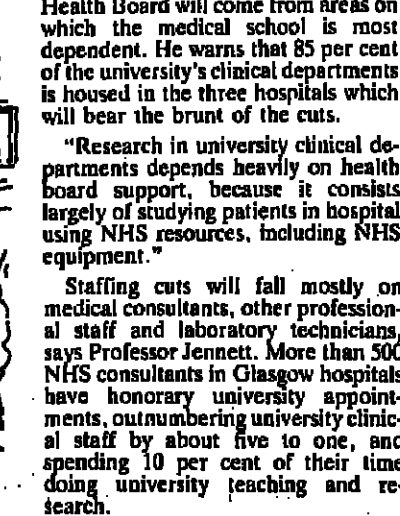
Medical school bears brunt of health service cuts

National Health Service cuts are posing a greater threat to teaching and research in Glasgow university's medical faculty than anything devised by the Secretary of State for Education and Science.

This view comes from Professor Bryan Jennett, Glasgow's dean of medicine, who writes in the university newsletter that most of the savings targeted by the Greater Glasgow Health Board will come from areas on which the medical school is most dependent. He warns that 85 per cent of the university's clinical departments is housed in the three hospitals which will bear the brunt of the cuts.

"Research in university clinical departments depends heavily on health board support, because it consists largely of studying patients in hospital using NHS resources, including NHS equipment."

Staffing cuts will fall mostly on medical consultants, other professional staff and laboratory technicians, says Professor Jennett. More than 500 NHS consultants in Glasgow hospitals have honorary university appointments, outnumbering university clinical staff by about five to one, and spending 10 per cent of their time doing university teaching and research.



Asia studies

Sir, - In her article "Where the dragon meets the bear" (*THE* November 15) Shirin Akner very rightly stresses the importance of the "Academic Initiative post" sponsored by the School of Oriental and African Studies and the UGC to promote central Asian studies in the University of London.

In this connection I must point out for the record that as early as 1962 the School of Slavonic and East European Studies suggested to the School of Oriental and African Studies that they should take advantage of funds available under the Hayter report of 1961 to establish a joint lectureship at the two schools in the history of central Asia.

Yours truly, G. H. BOLSOVER, 7 Devonshire Road, Hatch End, Middlesex.

Crossed line

Sir, - I refer to your brief report in the *ANTI-THESIS* column (*THE* December 6) headed "Black Mischief". There were no "hasty second release" by the APT. The press release was mine. The error came about because I telephoned the material to APT head office in Portsmouth.

There was no racial or any other connotation involved in the word black, as implied in your comments. The purely accidental inclusion of the word detracted from the sense of the sentence that "staff were being frightened for their jobs by propaganda".

P. E. STRACHAN-TIMMS, Association of Polytechnic Teachers, South-west London College.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Staying put

Sir, - Recently I sent for details of a post advertised on principal lecturer grade in an English college of higher education. When the details arrived they contained the information that the post would be held on local authority National Joint Council conditions of service.

Shock? Horror? Immediate protest marches by the National Association of Teachers in Further and Higher Education? Not a hope! The post was that of librarian and for some reason I will stay where I am on senior lecturer grade with Burnham conditions and an employer who trusts me to put in enough hours to do the job.

Yours faithfully, PETER H. BARKER, De La Salle College of Higher Education, Manchester.

Peer review

Sir, - I read Sir Norman Lindop's piece we recently shared.

With what I take to be his two central points I do not think it is possible to disagree: that academic standards must in the end rest upon the internal sense of responsibility and the self-critical attitudes of the members of an institution; and that determining which higher education institutions have developed the necessary procedures and attitudes is not appropriate made by the side of the binary line upon which they happen to fall.

On this point, however, I think it necessary to comment. First, he may possibly be right that some public sector institutions are better able to guarantee the standards of their under-graduate courses than some universities. But I know of no detailed comparative research that would substantiate the statement.

Second, and much more important, is the statement that the universities "are considered adequately to be safeguarding standards on undergraduate courses by being subject to peer review in the research field, a pretty *quid pro quo* indeed, if the facts were as stated. They are not."

Standards depend essentially on three things: on the quality of the staff; on the nature of the educational process; on the effectiveness of assessment. On the first, external assessors are almost always involved in senior appointments, they are usually involved in promotions, and in special appointments.

The national process, as Sir Norman says, must depend on the ethos of the institution, but procedures for regular monitoring and revision are normal and are being generally made more systematic.

On assessment, external examiners are being encouraged not only to play comment on curricular structure and as revealed in students' work. Peer review in research does of course critically affect and reflect staff quality, but only in this indirect way does it bear on the standard of undergraduate courses.

Yours faithfully, P. A. REYNOLDS, VCVC academic standards group.

DON'S DIARY

SUNDAY

At last! For some reason 1985 seems to have been "the year of the conference". Six down over the past ten weeks, just one more to go this season. This last one promises to be the most interesting of all - and the most eclectic: a gathering of an exclusive coterie of specialists concerned with fifteenth and sixteenth-century Low German literature and historiography. We meet every three or four years in places like Bremen and Brunswick. This year the venue is Wolfenbützel. As usual I shall be the only non-German present (for these purposes I regard the two participants from Switzerland as German), which gives added interest to the event. This is really a domestic German affair. My presence is due to my having published an article which turned out to be surprisingly seminal for the group's concerns, and it is fascinating to observe German scholars being themselves. One frequently hears reports of internal squabbles and methodological wrangles at German conferences, but to judge by our last meeting this bunch are worse than most. The tension engendered by the usual inter-university academic rivalry is heightened by an element of mutual suspicion between the historians and the literary historians: a dash of resentment on the part of the North Germans that their Low German "patch" is being worked over by colleagues from the High German south (not to mention the Swiss). I am not sure, however, that I see the work of some Low German writers recognized as major contributions to world literature. At our last meeting I found myself cast in a role rather like that of UN peacekeeper. I hope this will not be necessary this time.

MONDAY

Full day of lectures. Atmosphere very cordial. It transpires that the organisers have been anxious to avoid another acrimonious debate and so have chosen not to invite the black sheep to attend. My own paper well received, an impression later confirmed by a report in the local newspaper. The last event of the day is a public lecture by one of our number in Brunswick. Apart from the conference participants, only two people turn up.

TUESDAY

One or two papers have failed to materialize, so today's programme is somewhat curtailed. This provides me with a welcome opportunity to work in the library. The Herzog August Bibliothek is so well organized that the user's point of view is achieved in a couple of hours here one can achieve more than one would in a couple of days in the British Library, where one's best endeavours are so often thwarted by the irritating fact that the book so urgently needed has been outlaid at Woodstock Arsenal, or simply misshelved. Some useful little jobs done. I snatch a quick coffee before a meeting with an aspiring doctoral student who has travelled 250 miles specially to meet me (it amazes me how well the grapevine functions) - only to be told that a definitive study of the topic she had in mind had been completed five years ago, which could have been readily ascertained from the usual current-awareness bibliographies.

WEDNESDAY

The last day of the conference. More good papers followed by intense discussion which remains amiable in the main; the atmosphere is spoiled only by one professor who crumbly but oh so politely - destroys the

thesis of a "freshly baked doctor" (as the Germans say). However, the organizers succeed in retrieving the situation, and we proceed to a concluding session which was remarkable for its harmony and unanimity. We agree to meet again in three years' time and meanwhile to encourage the organizers in their endeavours to persuade university authorities and city fathers to fund a research appointment in our field of inquiry. Anyone familiar with the current British scene regarding funding for humanities research would feel like a Martian at this debate: notwithstanding the fact this untold sum had been spent in preparing the current exhibition in Brunswick, it was felt that our project stood a good chance of success not least because civic pride was currently riding on the crest of a wave and might therefore look favourably on further research bearing on local history.

THURSDAY

Spend the morning in the library. What splendid working conditions here. Five minutes' walk from my hotel, and by five past eight I am at my desk. I often think of this idyll when I am at home, spending 15 hours a week on the London Underground. My particular research interests are in the field of historical bibliography, and the Wolfenbützel library is the bibliographer's delight, so superbly catalogued are its holdings of early books. Thus it takes only a matter of minutes to ascertain what books the library has with a certain Cologne imprint between 1583 and 1595. In most other libraries such an inquiry could not be answered.

FRIDAY

After a visit to the university of Mainz I set off for the Frankfurt Book Fair. As I am browsing through Martin Walser's new novel *Bronchitis*, I am hailed by a former colleague whom I have not seen for 21 years. We start excitedly exchanging news, the flow of reminiscence being interrupted only momentarily as we observe Chancellor Kohl enter a side door and stride purposefully towards the British and Irish publishers who have set out their well represented in new German translation: Lord Olivier's memoirs, Paul Scott's *The Jewel in the Crown*, as well as classics like *Mull Flanders*, *Middlemarch*, and *The Mayor of Casterbridge*.

SUNDAY

After lunch I board a train for Munich. Germany's inter-city trains are a pleasant change from British Rail's much vaunted but appallingly cramped and uncomfortable 125s, but the journey drags on seemingly endlessly. Too tired to read, I kill time by doing a German crossword. We arrive in Munich 13 minutes late, to be met by a friend who informs me that she has seats for a theatre and the performance starts in 14 minutes. Dump luggage in boot of her car and race to the theatre, arriving breathless just as the curtain goes up. The play turns out to be just what I need for my linguistic acclimatization: a superbly acted dialect farce, described as a "rustic grotesque": *The Bartered Bride*.

MONDAY

Spend the morning in the Bavarian State Library - one of Germany's finest. To my annoyance I discover that two of the books I was hoping to consult are out on loan. This is not the first time this has happened to me here. More than ever I am convinced that it would be disastrous if (as is rumored) the British Library's collections became available for borrowing. After lunch make my way to an eastern suburb for the meeting which was the prime purpose of my visit. Arrive very late owing to a major power failure on the suburban railway. This, incidentally, Lufthansa proves to be much more dependable than returning me to Heathrow. On arrival at Terminal 2 the first thing I see is a huge advertisement with the slogan: "Research - there's no future without it". Is this the new banner of the AWT, I wonder?

John L. Flood
The author is deputy director of the University of London Institute of Germanic Studies.

Employers 'need bigger say'

by Carolyn Dempster

The current method of managing and funding further education is a positive disincentive for colleges to respond to employer needs, a major study jointly commissioned by the Manpower Services Commission and National Economic Development Office has revealed.

While FE colleges were found to vary widely in the extent to which they met employers' demands, many tailored courses more convenient to their own end. There was little financial incentive to seek out new markets, and budgets set out by local education authorities often took little cognizance of how effectively colleges were responding to market training needs, the report states.

A review of the role and funding of further education is recommended as one of the major steps towards improving the training market - one of the three themes outlined by management consultants Coopers and Lybrand as central to changing employer attitudes towards the value of vocational education and training.

Their cross-sectional survey of 60 companies determined that top British management had little interest in training and human resource development. The lack of concern, and the consultants, reflects complacency and not confidence and is reinforced by widespread ignorance among top management of how their company's performance on the training front compares

with that of their competitors both in the UK and overseas.

If Britain is to improve its training performance, and thereby the country's international competitiveness, a major change in the employers' attitudes to training is required concomitant with changes in the environment, the authors of *A Challenge to Complacency* conclude.

The first two themes they propose to achieve this objective are exhorting and encouraging companies to invest in training, and harnessing the interests of individuals to bring pressure to bear on employers. In the case of the latter, the concept of an individual training credit is suggested as being a powerful spur to individual interest in training.

On the question of the responsiveness of external suppliers, the authors suggest that FE colleges be allowed to retain funds raised from course fees. These monies could then be used to build up departments, improve their marketing and help develop new courses. The transfer of a proportion of the non-advanced further education funds to the MSC has created an opportunity for allocating some public sector funding to incentive schemes, they add.

Colleges are also better placed than firms to take up the initiative in developing links between particular departments and potential clients in industry - to avoid duplication and inefficiency.

Finally, a coherent and comprehen-

sive structure of qualification for vocational training is highlighted as a "linking thread" between the themes. Such a structure would provide a "lingua franca" for the training market, state the authors, and would be crucial in encouraging dialogue between the education providers and employers as well as encouraging them to increase their commitment to training.

It is important that any qualification framework be highly modular - as the Scottish FE system - and ensure credibility of qualifications through external assessment, they stress. Many employers surveyed complained about the relevance of the curriculum, and under a revised system of training qualifications, employers could exert more influence.

Further education colleges would be aided in their task of assessing industry needs through local networks of employer-led bodies - established to gather and supply information, to report recommendations.

Accepting that there is no simple answer to the problem, and the successful implementation of the strategy requires clear leadership from government and top management, the authors are reluctant to advise statutory measures as a means of achieving the desired ends. However, they add that, if such leadership is not forthcoming, "we would see no alternative to legislation".

SERC funds 'biased to development'

by Jon Turney
Science Correspondent

The Science and Engineering Research Council spends too much money on strategic and applied research, says the Royal Society in a submission to the council.

A group of society members led by Professor William Vinen of Birmingham University has told an SERC review - of the effectiveness of the council's investment in engineering research and development - that the science budget should not be used for filling the gaps in support between fundamental research and demonstration.

The society says development work is funded by the SERC at the expense of its true role in support of science and engineering, and should be passed on to the Department of Trade and Industry.

And the society argues that too much of the engineering board's £70 million annual budget goes on directed programmes. It says the difficulty of shedding commitments, such as the directorates or specially promoted programmes set up by the board, reduces its flexibility in support of undirected research and in promoting new priorities.

Professor Vinen's group estimates 40 per cent of the board's spending now goes on directed programmes. They recommend new directorates should only be set up with clear objectives and a well-worked-out plan showing who will benefit.

They note that external support for university engineering departments from other sources has kept pace with the rapid growth of the SERC board over the last decade, and estimate the board accounts for about half the total, with industry and government departments each providing a quarter.

Belfast architecture school reprieved

The University Grants Committee has rejected the recommendation of a transitory working group to close the school of architecture at Queen's University, Belfast. But it has given the university a year to submit a plan to improve the school's quality.

A statement from the UGC said that the decision had been taken on the advice of its technology subcommittee and taking into account representations made to the school's behalf. The Department of Education in Northern Ireland had been told what improvements were needed.

Changes have already been intro-



Novelist Mrs Catherine Cookson has presented Newcastle University with £250,000 to fund medical research - only part of an £800,000 bequest which Mrs Cookson and her husband have pledged to the university.

At a presentation ceremony last week (above), Jarrow-born Mrs Cookson presented the cheque to Professor Laurence Martin, the vice chancellor.

The cash will be used to establish the Catherine Cookson Foundation, to support research and other academic activities. Some of the

money will be used to fund a lectureship in haematology in the university's medical school.

Additionally, Mrs Cookson presented the university with two further cheques: £40,000 for the purchase of a laser to treat disorders of the intestine, and £50,000 towards equipping a new laboratory in the medical school.

Thanking Mrs Cookson at the presentation, Professor Martin said she should be recognized as one of the university's greatest benefactors.

Union averts clash with law

Hard left attempts to stop the college lecturers' union changing its rules to comply with Government trade union law narrowly failed at the weekend.

Officials of the National Association of Teachers in Further and Higher Education were convinced that direct elections to the union's national council would fail to get the required two-thirds majority.

In the event, the crucial vote at a special rules conference in London secured a narrow majority when some of the delegates from regions declaring

their opposition to the move stayed away. The vital vote was 219 to 93 - just under a 70 per cent majority.

A number of delegates are believed to have switched sides - thereby widening the margin - while representation from two of the opposing regions, Western and West Midlands, was far lower than officials had anticipated.

A clash with the courts would have been inevitable if the changes had not been supported. The Freedom Association declared it would support any Naffie member who challenged the existing electoral system in the courts.

Joseph, Secretary of State for Education and Science. The National Advisory Body had decided already to put forward the North East London Polytechnic school for closure, but not to approve the other two polytechnic school closures proposed by the group.

Sir Peter Prosser, vice-chancellor of Queen's, said: "We are delighted that good sense has prevailed and that the UGC has recommended that the department is not to close. We will, of course, be taking all steps possible to improve the quality of the department in line with UGC recommendations."

The decision means that only one of the four closures by the working party will be recommended to Sir Keith

Leader, back page

FORCES OF NUS

Put out by the CAT

Less than a month into his new job, and Mr George Walden, junior minister for higher education, obviously feels at home. In the now hallowed tradition of Conservative education ministers, he has asked for a report on the Polytechnic of North London.

What has caught Mr Walden's attention, as he mugs up on the entire higher education system, is a small PNL sideline called the Centre for Alternative Technology. The centre is the offspring of the Lucas Aerospace shop stewards' project devising alternative products to military technology, and is funded by various local authorities. It also produces a small and well-distributed pamphlet called "The Striker's Guide to Benefits".

This pamphlet has not pleased Tory backbenchers who have brought it to Mr Walden's attention. The minister has asked for a report, not only on CAT, but also some facts and figures from HM Inspectorate on the poly as a whole. This one could run and run...

Meanwhile money matters at PNL are occupying various minds. Members of the poly's court of governors are somewhat miffed to be told that although they have sanctioned a toppling up of Dr John Beishon's salary above the £30,500 allocated to the director, in order to encourage him in the arduous job, they cannot be told how much the extra is. It is apparently a confidential matter between Dr

Beishon and the Inner London Education Authority. The embarrassment of richer Tory MPs who appeared in the House of Commons last year to face orders to identify protesting students are to have their £39,000 legal costs paid by the poly. They now have to find a way of returning the £8,000 raised by well-wishers when they thought they would have to pay up themselves.

Eye on a moat

Campus security is a problem at Maryland University, but one of the candidates in this year's election for head of the student government has come up with an intoxicating idea to solve it. Thomas Cooper, alias King Tom II, is running on a platform of digging a moat round the campus and filling it with beer: the best imported lager, of course.

Intruders, says Cooper, would arrive both wet and drunk. On the other hand, would that clearly distinguish them from the campus's official inhabitants?

The problem with the Scottish Central Institutions, according to the Scottish Tertiary Education Advisory Council, is their unrepresentativeness. It is, according to the STEAC report this week, "At best meaningless to both employers and students, at worst misleading."

What they need is a new name which more clearly illustrates their role in the higher education system. So a small Christmas competition. Answers on a postcard please...

Stall mates

The moderate members of the Conservative Student Unionists group took over the stall allocated to Tory representatives at this week's National Union of Students conference, in the absence of their Federation of Conservative Students libertarian counterparts, who were boycotting the conference. Perhaps the FCS supporters had guessed that some administrator with a sense of humour had placed the Tory stall next to the one for Militant.

Forces of NUS left realign

CONFERENCE REPORT

by David Jobbins

A major realignment of the political forces within the National Union of Students - the first since the break-up of the Broad Left in the 1970s - is developing in the aftermath of the organization's conference in Blackpool last weekend.

There is speculation that the Communist students are on the point of deciding to pull out of the Left Alliance, the umbrella group under which they have worked with Liberals and independent socialists, and which has lost control of NUS to the National Organization of Labour Students in 1982.

Signs that the Communists were taking an independent line emerged during the conference, and there was also evidence that the Liberals were able to cooperate more closely with the Social Democratic Party students.

The vacuum left by the low profile of the Left Alliance in Blackpool allowed more room for manoeuvre by Socialist Students in NOLS who were successful in discomfiting the Democratic Left NOLS leadership particularly over the rejection of the executive's plan to develop the NUS areas and in the debate over Southern Africa.

The executive had wanted to encourage the development of a more comprehensive area structure to fill the gaps now hampering its operations in parts of the country which lack the cohesive force of a large university or polytechnic, while retaining control over the finances.

This plan, which the leadership had hoped to have firmly in place by the next general election, was rejected by its opponents arguing that areas should control their own finances.

The South Africa debate left the



Derek Hutton: denounced Labour leadership

executive defending a policy of maintaining links with the liberation struggle only through the African National Congress in the face of demands from the extreme left for contacts with the trade union and student movement.

The extreme left was aided in its task by appeals for a wider framework for support from two delegates, one whose father had been hanged in South Africa, and another who witnessed her father shot dead by the security forces.

But the move to step beyond the ANC was rejected after a warning from NUS president Phil Woolas that to do so "exposes to danger, imprisonment and death those people who we are building links with". The conference then voted to maintain its campaign against South Africa and against investments in companies with interests in the country.

Commons OU protest

by Jon Turney
Science Correspondent

University social scientists are turning away from the Economic and Social Research Council's general research grants scheme in favour of directed research programmes attracting earmarked funds.

The council's 1984-5 annual report, published this week, shows a fall in unsolicited grant applications to four of the ESRC's seven committees. Only two, government and law and research methods, recorded an increase in applications. The council ascribes the fall to current pressures on academics, suggesting that "research is often the casualty of the battle for resources" in universities.

However, it also reports that invitations to apply for cash linked to specific programmes tend to produce an embarrassingly high response - suggesting there are plenty of underemployed researchers of good quality.

For example, a new programme run by the environment and planning committee on changing urban and regional

planning. The council ascribes the fall to current pressures on academics, suggesting that "research is often the casualty of the battle for resources" in universities.

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Students condemn Green Paper

NUS is to try to make higher education an issue in the forthcoming local government elections but its conference has rejected a far left demand that it should recommend a Labour vote to students.

The conference was united in condemning the Green Paper with Mark Ramsbottom from Manchester Polytechnic wondering out loud whether ministers had not already made up their minds.

Paul Coombes (Bristol University) said: "We must tell Mrs Thatcher we are not just economic units but people who have rights - the right to study."

And Simon Pottinger, a member of the executive and of the Socialist Students in NOIS group, called on students to stand alongside trade unionists to refuse to implement the cuts.

There was anger at the plan to merge Keele University and North Staffordshire Polytechnic. Ms Liz Murphy, a student at the polytechnic, said: "The merger is not abolishing the binary divide - it is creating a new kind of elitism."

The move to recommend a Labour vote to students was defeated after a ruling from the chair, Adrian Long, that even if it was passed it would have no effect as it contravened the constitution.

Student leaders have called a day of action over grants and the review of social security benefits for January 24.

They are keen to fuse the issues of declining grants and the possibility that social security benefits will be doled out to students in the minds of their members.

systems attracted more than 70 applications, of which only seven could be funded. The council is trying to do something for the unsuccessful applicants by organizing regional seminars to discuss relevant work, focusing on local economic restructuring in Britain.

Ironically, the total value of awards made under the ESRC's general grants scheme was higher in 1984-85 than the previous year, although the council's grant-in-aid from the Department of Education and Science fell by £500,000.

Call to boost adult intake

Aberdeen University's principal has called on the Government to increase student intakes and enable more adults to come into higher education.

Professor George McNicol told the university's general council all the evidence suggested that Britain needed more highly skilled and educated manpower.

He said: "It therefore seems absurd to base our output of graduates in the 1990s, both from the universities and the public sector, on reproductive events which failed to take place 18 years previously."

The fall in the number of school leavers should be used to increase higher education provision for adults and mature students, for those without normal entry qualifications, and "to meet the legitimate aspirations of women", said the principal.

Aberdeen expects to have 300 students on its new part-time undergraduate and pre-university courses by the end of the decade, he said, adding that the university hoped these numbers would increase progressively after that.

Professor McNicol said the recruitment of overseas students was also very buoyant. Numbers had fallen to 278 three years ago, but a determined recruitment drive, particularly in North America and South-East Asia, has increased this to 520 in the current session.

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Call for single body to oversee Scots

STEAC's main proposal is for a single, umbrella organization responsible for the planning and funding of Scottish higher education, covering the universities, the central institutions and colleges of education.

This radical move would bring the eight Scottish universities under the control of the secretary of state for Scotland, as is already the case with the CIs and education colleges.

But while at present funds for Scottish colleges come direct from the Scottish education department, STEAC - under chairman Donald McCallum - suggests they would be distributed by a new Scottish Higher Education Council, which would be made up of representatives from higher education, the local authorities, industry, commerce, and the professions, as well as members from outside Scotland.

It recognizes the universities' "deeply held reservations" about any move away from national funding through the University Grants Committee in case this led to a reduction in their finances.

There is some feeling within the research council that there would be difficulties in assessing research capabilities and allocating grants if the Scottish universities were separated from the UGC. STEAC reports. Any reduction in research funding through their recurrent grant would undermine their ability to compete for research council grants, putting at risk their standing both in the UK and internationally.

STEAC states that it does not wish to end or endanger the present system of dual support for research, but sees no reason why research council funding would end if the universities' recurrent grant ceased to be distributed by the UGC.

It stresses, however, that a move to joint funding of the Scottish higher education sectors must be dependent on grant, keep their access to research council funding, and are included in a national peer review system for teaching and research.

STEAC recommends that the Graham committee, currently reviewing the UGC, should consider how access to national peer review can be maintained if the Secretary of State for



STEAC chairman Donald McCallum

Scotland takes over administrative and funding responsibility for the universities.

Following the Graham review, the Advisory Board for the Research Councils should consider how to ensure continued Scottish access to their funds.

But STEAC urges that, as a transitional move, a single body responsible for the planning and co-ordination of Scottish higher education should be set up as soon as possible.

In this case, funding for the Scottish universities should come from a Scottish subcommittee of the UGC, some of whose members would also serve on the new Scottish Higher Education Council, it recommends.

The new body's prime function would be a continuous review of demand for higher education in Scotland, says the report, but adds that it would not consider purely Scottish needs.

"Higher education planning in Scotland cannot be carried out in isolation from wider UK requirements and must recognize Scotland's traditional contribution to the supply of graduates throughout the UK. Indeed, we believe

employment opportunities nationally. The joint planning body would advise on how funds could best help rectify graduate shortages in key areas. It would also advise on rationalization or contraction where there was surplus provision, the report adds.

Leader, back page

Too many education colleges

Scotland's colleges of education should be cut from seven to four, STEAC recommends, although it refuses to advise which should close.

But it warns the Government that a decision must be taken urgently: "continuing uncertainty cannot be good for institutions."

STEAC predicts an increase in the number of students in pre-service courses from 3,340 in 1983/84 to more than 5,000 in the next decade, but says there is no reason why they should not be accommodated in three non-denominational colleges, and Scotland's one Roman Catholic education college.

Earlier this year, the Comptroller and Auditor General criticized the considerable surplus accommodation in the colleges, the report says, and it does not foresee a time when all seven colleges will be filled to capacity.

The education colleges have been in a state of virtually continuous contraction since 1977, says STEAC, and have already been reduced from ten to seven.

They have been forced to shed staff annually, only rarely making fresh appointments, and if the present provision is maintained, it will be impossible to have the regular influx of staff needed to ensure the quality of training.

At the Alternative Green Paper Conference organized by the Committee of Vice Chancellors and Principals, the chairman, Maurice Shock, pointed out that the 17 per cent cut in university funding over the past five years is unmatched in any other major sphere of public expenditure.

During their recent lobby of Parliament the Association of University Teachers drew our attention to the fact that £460 million has been taken away from universities in the past four years; that forecasts of future Government expenditure show cuts of at least another 2 per cent each year for the rest of the 1980s; that by the 1990s we will be producing substantially fewer graduates than now in all subject areas. They reminded us that Government support for the research council has fallen by 5 per cent since 1981/82 and is due to fall a further 4 per cent by the end of the decade; that university extramural departments are due for a 14.3 per cent cut over the next three years and that

the battered Open University is threatened with a loss of more than 6 per cent of its funding by 1987.

All of which is a very sorry tale. Much more could be added. Not only in education. There are of course many other vital areas of public expenditure that have been cut back and even more that deserved increases they have not received.

Yet, there is one sense in which despite all this we should be thankful things are not even worse than they are. For this restriction in public expenditure is taking place against a background in which the Treasury and the country has had the windfall of £11.5 billion tax revenue from North Sea oil in the

current year. This is the equivalent of 10p on income tax and is in addition to the enormous balance of payments contribution coming from the same source. What scale of cuts might there have been had it not been for that bonanza?

When Prince Charles made his speech warning us that Britain could end up a fourth-rate country people threw up their hands in horror. When David Owen replied by saying we already were a third-rate nation he got the same response. So it might be instructive to look at some of the facts to let us see just how far we have declined.

In 1950, the UK standard of living was almost on a par with the USA. In the world as a whole the

The Secretary of State for Scotland, Mr George Younger, this week published the 150-page report of the Scottish Tertiary Education Advisory Council on the future strategy for Scottish higher education.

The nine-strong council, the majority of whom are not educationists, was set up in July 1984 under the chairmanship of Mr Donald McCallum, director of Ferranti's. It considered recent evidence from 185 organizations and individuals, as well as interviewing the principals of Scottish higher education institutions, and the chairmen of the University Grants Committee, the National and Welsh Advisory Bodies and the research councils. OLGA WOJTAS outlines the report's main conclusions.

Numbers of students set to decline

STEAC says it is reasonable to assume that the number of full-time entrants to Scottish higher education peaks this year at 17,800, and declines by 24 per cent to a trough of 13,600 in 10 years' time.

But it warns that great uncertainty surrounds any projections, and recommends that the Scottish education department reviews them regularly.

One area of uncertainty is the future proportion of higher education entrants from outside Scotland. There is a suggestion, says STEAC, that whenever places in English universities became over-subscribed, there was pressure from English students on Scottish universities.

But there are marked differences between institutions. For example, in 1983-4, 58 per cent of entrants to St Andrews University were from outside Scotland, compared with 15 per cent at Glasgow.

There could be a substantial decline in outside entrants if student support favouring three-year courses were introduced, making a four-year, Scottish degree less attractive. Any move to reduce the difference between "home" and "away" grants could also have a "profound effect on recruitment."

But as the number of traditional entrants to higher education declines, there is likely to be an increasing demand for a more flexible system of education and training.

Increased participation by women, and by mature students, could help alleviate some of the chronic shortage, as could retraining qualified people through continuing education.

But it warns that post-experience vocational education cannot merit the same degree of support from the taxpayer as initial higher education, and proposes that those who benefit, whether employers or employees, should meet the cost.

Students should be able to transfer among within institutions in all sectors of higher education, it stresses. "More needs to be done to enable students to obtain qualifications through attendance at different institutions at different levels and for different subjects."

It also says a substantial number of higher education entrants, perhaps 30 per cent, do not complete the course, and there should be an investigation of whether it is possible to improve this.

Industry, commerce and professional bodies should be more involved in determining the intakes to and content of courses, STEAC recommends, and more employers should make their expertise and equipment available to higher education institutions.

But the report warns that the salaries of academic staff in priority subjects, especially in the new technologies, are now so seriously out of line with those in industry that the success of the "switch" initiative cannot be guaranteed.

Its success depends on good quality academic staff, and STEAC suggests the Government should find some means of paying extra money to staff "with skills which are in shortage at particular times."

It adds that schools need better guidance from industry on what subjects are needed for entry to technological higher education, and on employment prospects, since the numbers applying to higher education courses depend on decisions taken in school.

Emirates, Kuwait, Qatar, Switzerland, Germany, the USA, Canada and Sweden. Next comes a second group made up of France, Austria, Japan, Holland, Australia and Denmark. Finally, in the third group, is the UK, rubbing shoulders with Hong Kong, Puerto Rico, the Soviet Union, Yugoslavia and Taiwan.

I think that is an even sadder story than the cuts I referred to earlier. It points to the reason for those cuts and the massive reforms necessary to do something about it. There is a desperate need for everyone in higher education to enter the propaganda battle to demonstrate what an important asset we have built up in our higher education system and how absolutely vital it is to the future of the whole country.

Worse still, in the world as a whole the UK really is now in the third division of nations in 1985. The figures reveal that the first division includes the United Arab

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Backing for university liberal arts monopoly

The report endorses the present roles of Scotland's higher education sectors, stating that no fundamental change is needed.

The universities should remain the sole providers of liberal arts education, it says, and the central institutions and advanced courses in local authority colleges should maintain their strong vocational bias. The colleges of education should continue as specialist monotechnic institutions.

It supports the "distinctive and traditional breadth" of the Scottish Education system, with a broadly based secondary curriculum leading to a four-year honours or three-year ordinary university degree, and warns against any discrimination against them either through university funding or student grants.

The ordinary degree offers more flexibility in career choice than the more specialized system south of the Border, it says, and also provides a general education springboard for subsequent vocational qualifications.

While the universities should be encouraged to give priority to applied science, technology and business studies, they should between them offer a full range of non-vocational courses, and should retain their monopoly of degree in subjects such as law, divinity and medicine.

But it warns that not every university should offer a full range of courses, and further specialization is needed, particularly in subjects where there is a limited demand. The universities should also develop stronger links with

industry, it advises, and although their autonomy and academic freedom must be preserved, they should always be prepared to work "within economic and financial constraints dictated by the prevailing state of the economy."

The basic research conducted in universities, although it may not have immediate practical or commercial application, is of crucial importance to the country's future, says the report. But it adds that the central institutions and education colleges should be encouraged to carry out much more applied research than they do at present.

The CIs have been unreasonably restricted in research funding, and their recurrent grant should be increased, it says, since research will improve teaching through staff keeping up to date in their subject, and will strengthen links with industry.

Money earned through research should not lead to cuts in college grants, as has been the case, and STEAC urges the Scottish education department to give clear guidance on the retention of earned income.

More than a third of students in CIs take sandwich courses, and STEAC praises this as providing a vital link with industry, commerce and the professions.

The report rejects any merger of the colleges of education with either CIs or the universities. STEAC says, "where teacher training is not a vocational or polytechnic, it tends to be treated as peripheral and given too little priority."

STEAC says it has reservations about the Lindop committee's proposal that some higher education institutions should be able to award their own degrees, since this would separate them from the peer review system under the Council for National Academic Awards. But if the Government accepts the Lindop proposals, the SIT should award its own degrees.

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Distillation of Scotch wisdom

Excursions into this column, of necessity, are intermittent and this makes for difficulties in attempting to unfold a continuing saga. The Action Plan in Scotland is such a tale - the latest milestone being the publication by the Scottish Further and Higher Education Association of a critical review of the plan after its first full year.

For readers less directly involved, a resume. In January 1983 the Scottish Education Department published 16 to 18 in Scotland - An Action Plan. The aim of the plan was to revolutionize the approach to non-advanced further education by "developing a system based on modules and simplified certification."

Fretnetic activity followed to convert existing courses into 40 hour modules and by the summer of 1984 the catalogue of module descriptors boasted 600 items. The plan was launched in August, with no piloting and no real understanding by students or employers of the new system. During 1984/85 the work of preparing modules continued feverishly and by the spring, the national catalogue of modules had expanded to 17,800. Meanwhile the Scottish Vocational Education Council (SCOTVEC) was setting up validating and certification procedures for on the basis of modules completed.

Throughout this period, we in SFHEA, and others, argued the case for resources to allow staff to develop modules, but retain their sanity. In August 1985, management agreed grudgingly to advise authorities to allow lecturers temporary remission from duties for the development of modules. We fought also to prevent the fruits of our members' labours being gifted to private agencies, openly waiting in the wings for an opportunity to enter the stage.

The critical review of the plan in operation, just completed by the association, is the product of observations from individual members and branches - it represents a distillation of the opinions of a wide ranging population who are directly involved in making the plan function.

Our paper acknowledges the importance to further education of the innovative value of the module descriptors with their specified learning outcomes and performance criteria. We are sceptical, however, about the effects of modularization on the wider educational process - the question has been begged whether a sum can be divided and the total survive.

We are sceptical also about how far the principles of a negotiated curriculum and freedom of choice for the student do operate in practice. This scepticism is shared by researchers carrying out a study for the Scottish Council for Research in Education. It is clear that demands of employers, exigencies of timetabling and perceived constraints deriving from vocational aspirations all combine to limit choice to the point of eliminating it for many students.

Assessment and certification present problems. Assessing on a simple "can/cannot" basis is meeting resistance from both students and employers. It is de-motivating the students and is not sufficiently refined for employers. There is serious concern that the new National Certificate may become a second class qualification.

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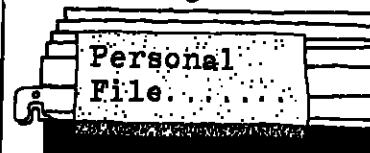
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Party time for a child of the sixties



by David Jobbins

Two years after Labour came to power, relationships between the inherently conservative universities and the new government remain uneasy.

An identity of purpose has yet to develop despite the presence at the pinnacle of the Labour leadership of a prominent academic who was until recently a leading member of the Association of University Teachers.

This is not a glimpse of post-Thatcherite Britain with Labour's soon to be announced charter for higher education falling to extract its quest for greater responsibility from the universities.

This is New Zealand in 1985 and the real life dislocation of the Labour government to attach priorities to the universities in the face of other more pressing demands.

The prominent academic is Margaret Wilson, senior lecturer in law at the University of Auckland, a former AUTNZ national council member and negotiator, and holder of the top elected post in the New Zealand Labour Party since 1984, who is visiting Britain this month.

Born of an old New Zealand family, Ms Wilson is a self-confessed "child of the 1960s" and came into Labour politics through the women's movement and the Vietnam war protests.

"In the 1960s we had to make some decisions as to whether political change could be achieved within established structures. I felt it was silly to reject these established structures without giving them a try."

In 1966 she went to Auckland University, where she took her first and master's degrees before practising as a solicitor and barrister. She returned to Auckland as a lecturer in 1972. "I wanted to specialize in industrial law which at that time was not a recognized academic discipline."

Five years later she was breaking new ground again, with a course in women and the law. But she did not encounter quite the opposition she had expected from the academic and legal establishment.

"They simply did not expect it to survive - that no students would take the course. Practically every year since I have been told that the course will not run - and virtually every year it has been oversubscribed."

Deep Labour Party involvement came with a campaign in which she played an active part to wrest control of the party from the parliamentary hierarchy. The top job of president, invariably held by an MP, was secured for non-parliamentarians, and inevitably she ran for vice president, winning by seven votes.

Then the presidency fell vacant and she was elected in September 1984, returned unopposed after her opponents withdrew before the electoral conference.

She was re-elected in September and intends to seek one further 12-month term before making way for someone else. But she has avoided special lobbying for the universities, conscious that her pleas would probably fall on unresponsive ears and inwardly uncertain that the universities have earned uncritical support from Labour.

"The relationship with Labour is not one of antagonism but it is certainly not close. The party is placing its emphasis on pre-school education and reducing teacher/student ratios in the schools. There is a feeling that the universities are not as relevant as they should be, that they are not concentrating enough on continuing education."

Dr Tony Woakes and the stars of his award-winning film

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overseas news

Aborigines to get their own course

from Geoff Maslen

MELBOURNE Australia's first "blacks only" higher education qualification is to be offered next year at the Gippsland Institute of Advanced Education in Victoria.

The institute is to offer an associate diploma in aboriginal studies open only to aborigines living in the Gippsland area.

According to the institute, the two-year course is intended to prepare aboriginal students for a greater role in both the black and the wider community and to enhance "lifestyle opportunities".

One of the course organizers at the institute, Ms Eve Fesl, who is also the director of the aboriginal research centre at Monash University, said it

would be embarrassing for blacks if whites excelled in a course on aboriginal culture, just because they were familiar with an educational environment.

Ms Fesl said aborigines who were not confident in an educational institution setting would be disadvantaged if they had to share the course with non-aborigines. She said aborigines had always been disadvantaged because they spoke a "dialect" of aboriginal English and were dumped into remedial classes at school as a result.

The course will teach Australian history in a way not covered before by Europeans in this country. It will include aboriginal legends, the genealogy of Gippsland blacks, aboriginal society, customs and law, art, drama, music and sport, archaeology, post-

European settlement, colonial law and aborigines in contemporary society.

Victoria's aboriginal tribal languages cannot be covered because they have been lost. Like Tasmania, Victoria - more settled and smaller than the other states - has the smallest number of its original inhabitants than anywhere else in Australia. Disease, rather than genocide, was probably the principal cause of the decimation of the aboriginal tribes in the 19th century.

The Victorian equal opportunity board says there are exemptions to the Equal Opportunity Act and the Federal Racial Discrimination Act designed to allow bona fide programs aimed at reducing the disadvantage of a particular group.

Satellite plan to teach computing

A group of organizations brought together by the United Nations' International Youth Year have launched a global educational project teaching students computer skills by satellite.

The project encourages students to seek their own solutions to problems such as the arms race, environmental degradation and the imbalance of economic development, while fostering computer-literacy in the poor countries. The venture uses computer equipment donated by North American manufacturers, free telecommunication facilities provided by the international satellite organization INTELSAT and support by universities in the developing regions. It has won much praise at a recent world conference on the UN's youth year.

The programme uses a simulation to be able to interact with each other as well as the model. The simulation, while educational in itself, is designed to provide a stimulus for computer

study. Finance for the project has been raised by the UN development programme and a special UN fund established for a global action plan on science and technology. Local training costs will be met by national governments. The project has also attracted much interest and support from such organizations as the Association of World Education, the International Association of Business and Professional Women and the Universal Esperanto Association.

The scheme is in line with the basic themes of the youth year, which are "participation, development and peace". It also supports the conclusion of the world conference, which sought to devote the rest of the century to "minimize the marginalization and in Vienna with a six-week session for two students each chosen from the 10 regional training sites around the hungry belt of the globe.

Grants bonus for education

At the conclusion of one of the largest federal grant competitions in the history of educational research, 10 American universities have won five-year awards to operate research and development centres designed to increase knowledge about education.

The grants, totalling \$54.5 million, will go to Michigan State University; the University of California campuses at Los Angeles and Berkeley; the University of Pittsburgh; John Hop-

kins University, Baltimore; the University of Wisconsin; Columbia University; the University of Maryland; the University of Michigan; and Rutgers University, New Jersey.

Each new centre, selected from a total of 110 applicants in a process which has been going on since 1981, will conduct research on an individual topic. These will include writing, learning, teacher education, student testing, and post-secondary.

Italian autonomy call

from Federico Gamberini

LA SPEZIA A group of Italian Socialist MPs has introduced a Bill in the senate - the upper chamber of the Italian parliament - for a development of the autonomy of universities on the lines of "the German and Anglo-Saxon models".

The Italian university system is a strongly centralized one. Universities, with the exception of a very small number, are state-controlled; they may accept donations and legacies, but only with the approval of the central

authority. Teachers are legally considered civil servants.

The proposed reform embraces a number of aspects concerning internal organization, financial administration, and even teaching. Universities would be allowed to look for alternative sources of income, and the status of teachers as employees would be partially modified in terms of a devolution of the role of employer to the individual university.

Such proposals bode well for the system, but the full implications of their enactment remain obscure.

Germans to impose legal curbs on embryo technology

from Barbara von Ow

MUNICH The West German government has decided to impose legal restrictions to prevent the abuse of genetic technology. This was confirmed by justice minister Mr Hans Eichel and research minister Mr Heinz Riesenhuber following the publication of a long-awaited report by an expert commission earlier this month.

The commission, headed by the former president of the constitutional court Ernst Benda, was set up by the government in 1984 to analyse the ethical and legal problems of new artificial reproduction methods and embryo experiments. In its report the group, made up of biologists, doctors, philosophers and lawyers, calls on the

government to take a clear stance to avoid a "legal vacuum" on some burning issues.

While advising against any general ban or moratorium on genetic research, the commission underlined that the freedom of science was limited by a concern for the protection of human life and dignity. The report, which was largely welcomed by the political parties, the public and the churches, made a clear distinction between medical research and experiments aimed at genetic manipulation. The commission called for a ban on the cloning of human life or the creation of hybrids of human and animal life, which were punishable offences.

It was more ambivalent, however,

on embryo experiments. While calling for a ban on the creation of human embryos for scientific testing, it said embryo experiments were "ethically acceptable" if they served medical purposes. However, the commission called on the government to set up binding regulations on all embryo research under which each case would be studied individually before official permission was granted.

Similarly, it called for comprehensive legislation on *in vitro* fertilization. It raised no objections against cases involving only the natural parents. However, cases involving unmarried couples or a third donor should only be approved under exceptional circumstances. By contrast, the commission urged

an all out ban on surrogate motherhood.

Two members of the 19 member commission put in dissenting comments on the final report, one (a geneticist) to note that official legislation was still premature and the other (the only psychologist) to warn against all forms of artificial insemination.

Mr Riesenhuber said the commission's recommendations confirmed the government's commitment to the protection of human life, marriage and family. The government would engage in a wide ranging public discussion of the chances and risks of genetic technology before laying down detailed legislation on some of the issues, he



Mr Riesenhuber: AIDS priority

Scholars face AIDS tests

The West German government has begun submitting scholarship holders from Third World countries to compulsory AIDS tests and to send them home if they are found to be infected with the disease.

According to West German press reports, the federal ministry for economic cooperation introduced the compulsory AIDS tests in September. It has already sent back nine people from East and Central Africa who were found to have HTLV-3 antibodies in their blood.

The tests will be carried out on some 1,500 to 1,600 scholarship holders invited to study or work in

Vienna with a six-week session for two students each chosen from the 10 regional training sites around the hungry belt of the globe.

At the same time, the federal research ministry has announced that the AIDS disease will become a key focus of its 1986 budget. More than 300 people are presently known to be affected by AIDS in West Germany, while over 100 have already died from the disease.

According to research minister Mr Heinz Riesenhuber, AIDS research projects would be given a priority in the funds allocated to medical research next year.

Yugoslav historian jailed for anti-Tito article

Dr Dragojlo Petrovic, a philosophy professor at the University of Novi Sad, was sentenced last week to 60 days imprisonment for an article on controversial aspects of Yugoslav wartime history.

The severity of the sentence came as something of a surprise. Since the article appeared in the prestigious Serbian literary journal, the *Kulturne Novine*, in October, the official media has been urging action against Dr Petrovic, but it was expected this would mean, at worst, dismissal from the university. Indeed, on November 13, the presidium of the Novi Sad party organization issued a "unanimous resolution" that "such an educator should have no place in a university classroom".

The Party organization at the university, however, refused to act, declaring that it condemned Dr Petrovic's text, but not his capacity as a lecturer and professor. The issue was therefore taken to the city court.

Petrovic's article made three sensitive points. First, he raises the issue of

the fate of the anti-communist partisans who were hunted over in Tito's Britain immediately after the war (May-June 1945) and subsequently shot by Tito's forces.

As a corollary, he then raised the issue of the moral culture of the persons running the Party at that time. Finally, he questioned the verdict history on General Milan Medić, also shot after the war, for having been the head of the Serbian administration under the Nazis. Medić, Petrovic suggests, was not as black as he was painted.

Meanwhile, in the case of Veselin Djuretic's book *The Allies and the Yugoslav War*, which criticizes Tito's dealings with the Allies, one of the reviewers who recommended its publication has been expelled from the Party.

Dr Zoran Lakić's defence was that his review did not affect the publication of the book, since the publisher already decided to accept the book four days before he had submitted his review.

The dismissal of over 40 Polish university rectors, pro-rectors and deans does not sit well with assurances that normalization and reconciliation are proceeding satisfactorily.

Mr Stefan Staniszewski, last week, the ambassador to the Foreign Office, told the Polish ambassador, Mr Stefan Staniszewski, last week.

The ambassador was specially summoned to the Foreign Office for a 20-minute meeting, which Foreign Office sources subsequently described as "short". Mr Rifkind warned the ambassador that the sackings were bound to have an adverse effect on British parliamentary and public opinion, and stressed the widespread concern about the dismissals which, he said, flew in the face of Polish government claims.

He reminded the ambassador that Foreign Secretary Sir Geoffrey Howe had stressed the British Government's concern over the reform of the Polish higher education law during his official visit to Poland last April.

Mr Staniszewski replied that the matter was a domestic Polish matter. While it is true that, for the moment, the dismissed rectors and deans still hold their university posts, the Polish underground press had reported gov-

ernment plans for a "review" of university teaching personnel.

Protests against the dismissal of the rectors and deans are still being reported. Student representatives from a number of leading universities made their way to Gdansk, to consult with Solidarity leader Lech Walesa and then sent the government a protest letter, claiming that the dismissals would destabilize the universities.

Protests have also been signed by academics throughout Poland, and at least one rector not affected by the changes, Dr Kazimierz Szebielko of the Poznan Agricultural Academy, has reportedly resigned the rectorship in sympathy.

Meanwhile, abroad, a victim of the Warsaw University purge of 1968, Dr Leszek Kolakowski, the philosopher was last week awarded the highest American honour in the human sciences, the Jefferson Lecture, by the first non-US citizen to receive the award.

Dr Kolakowski, a fellow of All Souls Oxford, is a member of the Polish underground organization for "Education, Culture and Learning" (the underground educational and artistic initiatives in Poland).

Rifkind warns Poles on academic sackings

Mr Stefan Staniszewski (left) and Mr Malcolm Rifkind

Mr Stefan Staniszewski (left) and Mr Malcolm Rifkind

by Geoffrey Parkins

Hundreds of leading Chinese Communist Party and government officials have been touring the country's universities over the last few weeks to listen to students problems and criticisms, and to discuss and explain current policies and reforms. Students were assured that the party central committee (PCC) and the state council were taking measures to solve their problems.

The nationwide university visits were thought necessary in view of the volume of concern expressed over practical problems being experienced by students, and misgivings relating directly to current reforms and policies. Of particular concern were problems caused by rapid expansion of the student population which, claim many students, is reducing the quality of research, study and living conditions. Discussions and lectures also covered the proposals of the recent national Party conference and domestic and international issues.

While at the Beijing Polytechnic University, Chen Xitong, mayor of Beijing, listened to and discussed criticisms and opinions on the university's administration, the quality of teaching, and study and living facilities generally. Also of immediate concern to students were the recent sudden price upswings which had further reduced their spending power. After discussing students views and suggestions, Mayor Chen explained the thinking behind recent reforms and the strategies being employed to curb recent price upswings. He also assured students that the PCC and the state

China listens to its troubled campuses

council were taking "new measures" to solve student problems. He reminded students of the hard work that was required of them, and of the "historical responsibility" which rested on their shoulders as the future "pillars of the state".

At Beijing University, where students in the past have been more vehement in the way they express their opinions, party secretary Li Ximing said that while he was impressed by the patriotic enthusiasm of many students in the university, some forms of self expression were completely inappropriate and warned that they would not be tolerated.

If the practices which became prevalent during the chaotic years of the cultural revolution were allowed to persist, said Mr Li, the resulting instability would put at risk both the democratic rights of the majority and the country's modernization programme, which was the "key to a happier life for 1.2 billion people". Mr Li advised students to take a broader perspective and try to be more objective when analysing problems and taking action. Instead of listening to heresy, students should go to the farms and factories and ascertain the facts for themselves, he added.

At Heilongjiang University in the northwest of the country, students and officials discussed more basic issues, like inadequate water, food, electricity and transport, which led officials to take immediate action to remedy the situation.

Both students and party officials around the country were reported to be satisfied with the talks, more of which are expected to take place in the near future.

Lecturers face sack after publishing critical report

from Paul Routledge

SINGAPORE

Conflicting views about academic freedom of expression lie at the heart of a dispute at the National University of Singapore that threatens the jobs of two expatriate British lecturers.

Some "expats" on the Kent Ridge campus argued that Leggett and Wilkinson knew the ground rules and had only themselves to blame. Others insisted that any curtailment of academic freedom of expression was wrong in principle and in practice would deter foreign academics from working in Singapore.

In their article, Leggett and Wilkinson wrote: "The government is prepared to mobilize all the substantial corporatist controls at its disposal to engineer the attainment of its vision of Singapore's future."

When the article finally came to the attention of the Singaporean National TUC, which enjoys a close, "symbiotic" relationship with the government, it was immediately denounced in public by Mr Lim Boon Keng, a leading MP in the ruling People's Action Party and assistant secretary general of the NTUC.

Mr Lim described the paper as "a critical view of our social development", adding: "The authors are entitled to their opinions, but I take exception when those views are supported by half-truths, distortions, and outright inaccuracies and couched in emotive language." He later argued that the report would "subvert our progress".

The British pair refuted the allegations made against them, and the local media (which is very sympathetic to the government) published their detailed rebuttal. Mr Leggett and Dr Wilkinson have, temporarily at least, declined an offer to debate their differences in public with the NTUC assistant secretary-general.

The affair, which is by no means over yet, highlights a high degree of

over yet, highlights a high degree of the sensitivity of politicians in developing countries to the comments and analysis of expatriate academics hired to staff the university departments of those nations.

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Course goes down a bomb

Students at the University of New Haven, Connecticut, are to get a novel opportunity next year - a chance to learn how to build their own atomic bomb.

The course, entitled "Introduction to Nuclear Weapons", is being taught by Professor Richard Morrison, who says he hopes to increase public awareness of nuclear weapons and their effect. He denies, however, that he is doing anything particularly outlandish.

"Anyone who can get their hands on an encyclopedia and some plutonium can find out without taking my class how to put together a bomb," Dr Morrison said last week. "Making a crude bomb is very, very easy."



Breakthrough claimed for artificial blood cells

from William Norris

WASHINGTON

Vietnam's minister of higher education took the occasion of last month's celebrations for 40 years of higher education in Vietnam to issue some sharp criticisms.

Vietnamese higher education, he said, was displaying aspects "inconsistent" with the current economic situation, particularly as regards the requirements of national construction and defence. The quality of political education and "revolutionary ethics" in the higher schools is poor; many students graduate with only a "weak capacity for work", and the deployment of graduates is unsatisfactory.

Computer deal

The Hong Kong company, Digital Equipment Ltd, has won two major contracts worth nearly HK\$ 13 million to supply computer systems to universities and colleges in China.

One of the contracts involves supplying a variety of computer systems to 17 vocational colleges and the country's university radio and television networks in Beijing. The second involves the supply of teaching and research systems to 13 medical universities and two medical research centres.

Thai-Soviet thaw

Thailand and the Soviet Union have worked out a compromise over the vexed question of scholarships for Thai students. But the Thai foreign ministry is still concerned about the 200 Thai students believed to be already studying in the Soviet Union.

According to the Thai National Security Council (NSC), recruitment of Thai students by Soviet officials, without going through the proper Thai channels, was a potential channel of subversion. The secretary general of the NSC, Prasong Sunthi, said that he strongly opposed the setting up of any Thai-Soviet friendship society, which could only facilitate such activities.

Bowled over by West Indies honorary degree

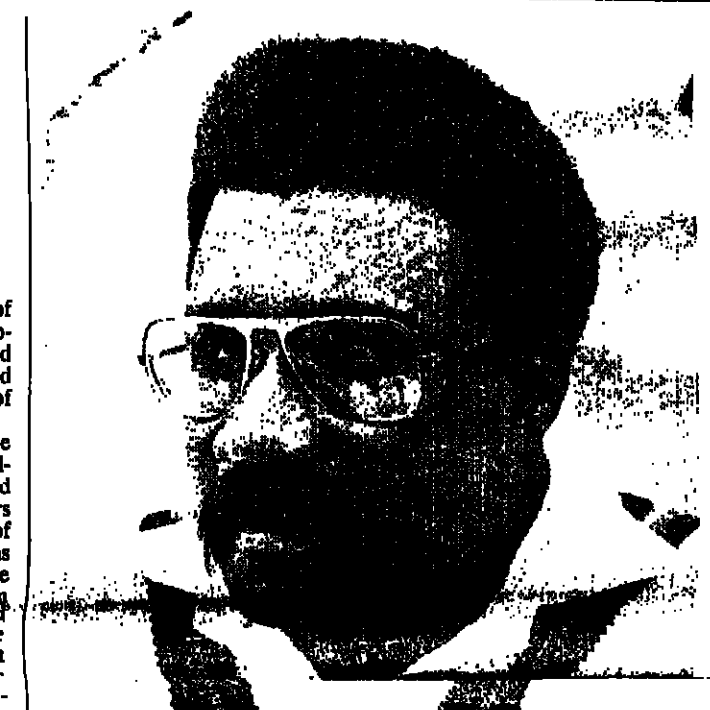
from E. P. Brandon

KINGSTON

The University of the West Indies has set a precedent by awarding an honorary degree to a sportsman: Clive Lloyd (left) the Guyanese former captain of the West Indies cricket team. In honouring an outstanding exponent of the English-speaking Caribbean's outstanding sport, the university at Mona, Jamaica, saw itself as affirming what is distinctively West Indian. For that reason Lloyd said he was "extremely happy" to accept the award.

The university also conferred an honorary degree upon Dr John Carey, a New York lawyer who has served on UN committees for human rights and who has also been associated for many years with the American Foundation for the University of the West Indies.

The chancellor, Sir Allen Lewis, spoke of the university's considerable expansion over development plan was in the pipeline.



creating a totally synthetic cell that duplicates all the functions of a red blood cell," he admits, "and the red blood cell is the simplest cell in the body. But this is the first step in synthesizing a viable cell."

Neohemocytes are recycled human haemoglobin, obtained from whole blood which has exceeded its shelf life and would normally be discarded, repackaged in synthetic bubbles of a fat called phospholipid. The bubbles, known as liposomes, are composed of a double layer of the fat, including some cholesterol, and resemble the membranes that form the "skin" of cells. They are created by a process similar to that used for making carbonless "carbon paper".

During their experiments, Dr Hunt and his team transfused 50 per cent of the blood in experimental rats with neohemocytes suspended in a saline solution. They found limited evidence of permanent damage to the organs.

Once transfused into an animal, the artificial cells are gradually broken down, with a half-life of about six hours. Dr Hunt claims that such limited survival of the cells would be useful in the emergency treatment of humans, tiding them over for long enough to be transported from the scene of an accident to a hospital.

His goal is to increase the half-life to between 24 and 72 hours, which would give the body's normal process of manufacturing red cells time to keep pace. Human trials, however, will only begin after the production of neohemocytes suspended in a saline produce larger quantities, and after these have been shown in animal experiments to work as well as the original batch.

Dr Hunt is currently trying to construct liposomes which include a cytoskeleton - the internal framework of cells. He is not certain that this will be of any advantage in creating better neohemocytes, but it will bring them closer to resembling red blood cells.

The San Francisco team's achievement is being hailed as the first step towards producing totally artificial cells. "We are on the edge of having sufficient technology to reconstruct cells from scratch," says Dr Hunt. "We're probably many years from

THESEER REVIEW

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thinks...

PHILOSOPHY

MECHANICAL
ENGINEERING

But perhaps the most remarkable

The one institution, apart from their own, in which most respondents would like to work is Cambridge. Despite Imperial's superior reputation in both research and teaching, the quiet of the Cam is much more appealing than the traffic of South Kensington. There is also little question about the most attractive institutions to mechanical engineers in the rest of the world. Here the honours are fairly evenly divided between Stanford University and the Massachusetts Institute of Technology.

The following institutions were also mentioned:

Queen's University Belfast
Kingston Polytechnic, Robert Gordon's Institute of Technology, Middlesex Polytechnic, Durham (6); University College London, Southampton, Nottingham (4); Thames Polytechnic, Edinburgh, Sussex, Coventry Polytechnic, University of Wales Institute of Science and Technology (3); Portsmouth Polytechnic, Oxford Polytechnic, Surrey, Heriot Watt, Salford (2); North Staffordshire Polytechnic, Swansea Teesside Polytechnic, City Aston (1).

RESEARCH RANK

1. Cambridge	70
2. Leeds	35
3. Imperial College	28
4. Leicester	18

Others mentioned were Aston, Sheffield, Kingston Polytechnic (5); University College Cardiff, Imperial College, Portsmouth Polytechnic (4); Glasgow, Reading (3); Exeter, Manchester (1).

The following institutions were also mentioned: Belfast, Essex, Sussex (5); Bangor, Bristol, St Andrews, York, Essex (4); Birmingham, Glasgow, Southampton, Lancaster, Open University, Middlesex Polytechnic (3); Edinburgh, Leeds (2); Keele, Manchester (1). Thirty-three replies were received, of which 21 were complete.

Cho's high flyers

fact that the university's president, the charming and enigmatic Dr. Tai Won Park, is Dr. Cho's brother-in-law, may have something to do with this. "We don't have any direct pressure from Hanjin," explained one professor. "But if Dr. Cho wants something, he probably gets it."

In its bid to spearhead the technological revolution which Korea sorely needs, Inha, in common with the country's other universities, faces

Korea emerged from the Second World War with an uneducated population and very few people qualified to teach. Within a few short years it was plunged into an internal conflict which devastated the country. In these circumstances, to achieve within 35 years a percentage of young people going on to higher education which is markedly greater than that in Britain, is a bootstrap operation of no mean order.

Despite Brussels bureaucracy, academics are optimistic about the future of EEC exchanges. Peter Aspden reports

Official brave new strides for tomorrow's Euro-citizen

Somewhere in the conspicuous vacuum between rhetoric and reality which characterises the mindless and assorted conferences, seminars and summits which take place in Brussels, a happy group of about 400 lecturers from all over Europe managed to find a chink of hope when they met recently to discuss their common aims and ambitions.

Not that they, any more than their political leaders, achieved any substantive and meaningful points of agreement during their ruminations. The perennial problems played like a tired, overfamiliar waltz: academic recognition, credit transfer, languages, round and round, on and on... they could have danced all night.

At the same time, their review of the European Commission's 10-year-old joint study programme (JSP) scheme, which has paved the way for students and academics to travel to other member states for short study periods, was an undoubted cause for optimism about the future.

The figures alone make impressive reading. From the 32 grants awarded in the scheme's first year have sprung a total of 1,034 awards over the 10-year period. But what is even more praiseworthy is the way in which the programme has evolved despite the lack of centralized planning and agreement. The scheme was always envisaged by the commission as one which would work from the grassroots upwards — a backcountry and frequently abused political concept, but one to which institutions have responded and taken numerous initiatives along the way.

There is, for example, no standard length of a joint study programme. No diploma, no uniform financial award, no common agreement on the conditions of the exchange.

Politics in the European arena is, of course, full of irony and paradox, such as the one which pushed Britain into the forefront of the JSP project. Of the joint programmes currently in

operation, British lecturers and students are involved in two-thirds, and have traditionally taken the lead in establishing links with other countries' institutions.

Yet that didn't stop the British Government and its agencies from being singled out for criticism in the conference's closing plenary session when the Dutch rapporteur-general, Professor Sperna Weiland, referred to complaints from the UK delegation that the Green Paper on higher education had made no reference to European exchanges. "So much for the United Kingdom," he told chuckling, and perhaps over-smug, representatives from the other countries.

The passing reference was no surprise. During the UK delegates' working group, chaired by Lord Briggs, the provost of Worcester College, Oxford, many of the lecturers were insistent that the apathetic attitude of the Government, the University Grants Committee and the National Advisory Body towards Europe should be reported to the main conference; there, despite a warning from a senior education department official that it was "washing our dirty linen in public".

The group also reflected on many of the traditional weaknesses and faults of British students and staff, namely languages ("Britain is the only country where they regard you as a genius if you speak three or four languages," said one lecturer) and anti-Europeanism — more than one delegate expressed a sense of embarrassment when talking to colleagues from other countries, especially when so many back home were "besotted with things American".

Despite these grumblings, the general note of the meeting was, it must be repeated, positive. Nor was the commission itself far from optimistic.

The commission itself has been concentrating recently on establishing education as a priority in European affairs, as shown by the commitment to spend 65 million European currency

units (about £8 million) in the next four years on its COMETT (programme of the Community in Education and Training for Technology) project.

Much of the momentum for the new initiatives comes from the personal determination of the commissioner responsible for education and training, Mr Peter Sutherland, who was clearly excited when revealing the scheme's details to journalists.

Significantly, it was a background briefing, a formal press conference to coincide with the end of the JSP conference was cancelled at the last minute, so sensitive was the political atmosphere just a week before the crucial Council of Ministers meeting which would decide whether COMETT went ahead.

In the event, the council chopped the commission's proposed budget for the project from 80 million to 65 million ECUs — a not unusual reduction which left most parties happy. Mr Sutherland even went on to announce a further initiative, ERASMUS (European Action Scheme for the Mobility of University Students) to the conference, and declared in another community member state, instead of the current figure of one in 100.

It is not difficult to explain the commission's relatively new-found keenness to promote educational links across community frontiers. There is, first, the obvious need for co-operation — particularly in technology — between countries which, on their own, are no more than minnows in the economic giants from East and West which have forged ahead in many areas of science.

Statistics were proudly trotted out at the conference: in the US, the figure is 30, and in Japan it is 43.

But quite apart from the practicalities and economic realities — although these are the most telling arguments of all in terms of securing support at ministerial level — there was a more idealistic, even visionary force at work at the conference: the feeling that by shunting young people around the continent, acquiring them with a variety of diverse cultures, one could make a start at creating the Euro-citizen.

This was acknowledged by Mr Sutherland when he quoted the community's founding father, Jean Monnet, to the conference: "If I had to do it again, I would start with education."

The commission's director for education, vocational training and youth policy, Mr Hywel Jones, also revealed a bit of the vision, in talking of a Europe which "should be meaningful to the average citizen, not just something controversial that one reads about in the press".

With this in mind, the joint study programmes run by institutions, although financially modest and varied in subject and depth, have assumed a far greater degree of significance than might have been warranted by their conference sessions, the commission was at great pains to provide groups of students to whom journalists could talk about the programmes, and as a public relations exercise, it could not have been bettered.

For example, two linguists from Sheffield City Polytechnic told how they not only improved their Italian immensely during their attachment in Turin — the avowed aim of the joint programme — but also personality. Significantly, neither of them disavowed the possibility of returning to Italy to find employment when they finished their course — not because they had been irrevocably seduced by the shimmering possibility of endless espressos and stylish boutiques, but because the crossing of national frontiers now held no mystique, no apprehensions.

Their course, they stressed, was not a fortnight's fly-drive around Tuscany — it was hard, enjoyable, stimulating work. It was what they looked for from higher education, after all.

Guy Neave

The author is currently maître de recherche at the European Institute of Education and Social Policy, Paris. In January, he takes up the chair of comparative education at the London University Institute of Education.

A tribute on the 150th anniversary of his birth to America's great humorist by Dennis Welland

On 30 November 1835 Samuel Langhorne Clemens was born in what he called "the almost invisible village of Florida, Missouri". His birth, he boasted, increased Florida's population by 1 per cent and coincided with the arrival of Halley's comet. On the day after the comet's return in 1910 Mark Twain died, thus fulfilling his own expressed belief in the Almighty's ordinance that "those two unaccountable frauds... must go out together".

With his 150th anniversary Halley's comet comes back into human view, but for more than a century Mark Twain has never been out of it. In this country alone more than 1,150,000 authorized copies of his works were published in his lifetime, in addition to countless piracies; the numbers published in the USA and in translation elsewhere are incalculable.

A few titles have probably never been out of print since they were first published. To this day no American writer's name is better known, though there are many with whose writings the modern reader will have a wider and closer familiarity. Hemingway's over-quoted tribute "All modern American literature comes from one book by Mark Twain called *Huckleberry Finn*. It's the best book we've had" may have helped to distract attention from most of Mark Twain's others, but there are also intrinsic reasons for their relative neglect.

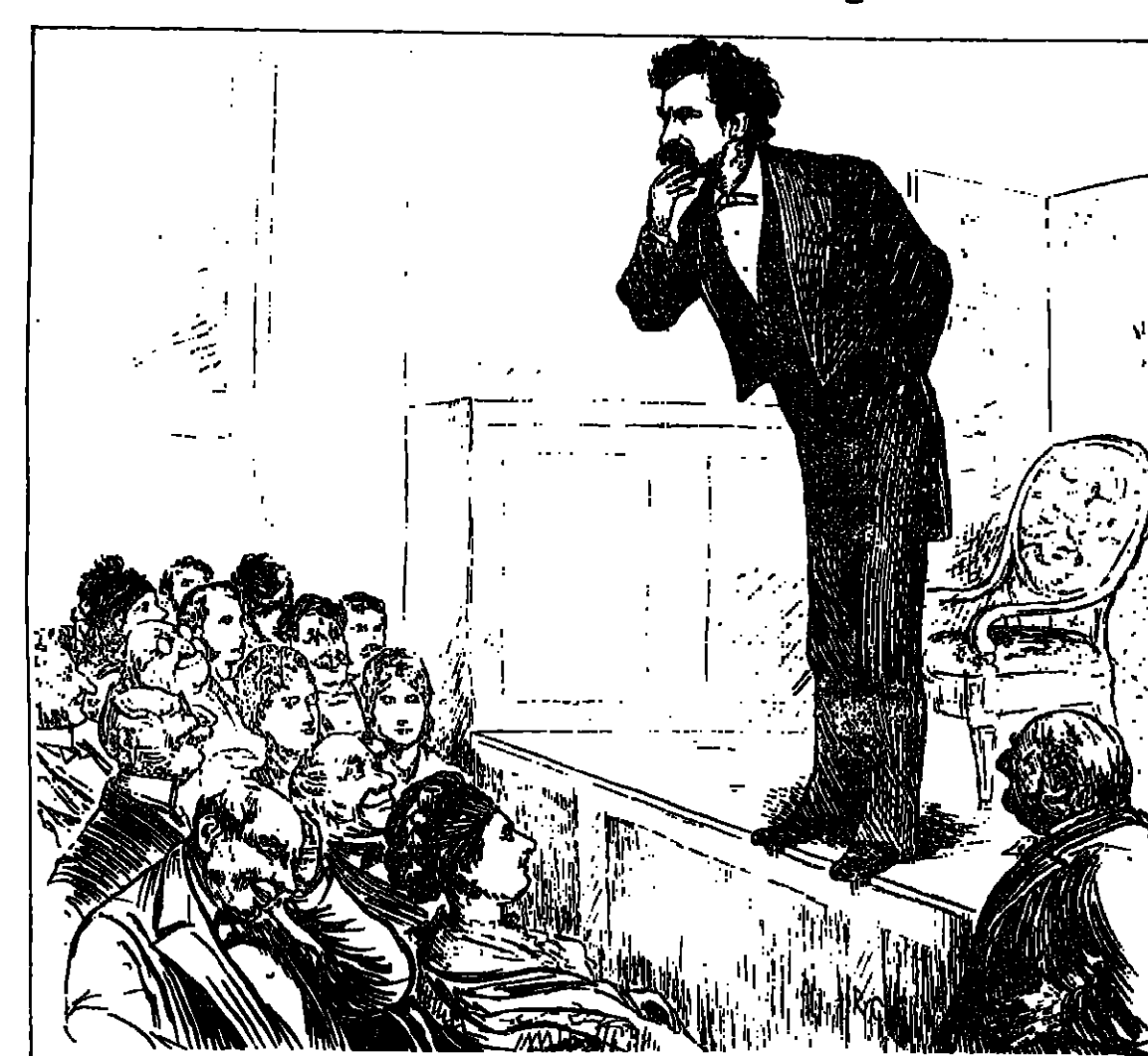
Much of his writing derives directly from his vast, varied experience. Born in the ante-bellum South, a printer's apprentice who became a Mississippi steamboat pilot until the Civil War, a soldier in the Confederate army for a brief period who "made a separate peace" and went West, a miner on the Nevada frontier, a San Francisco journalist who wrote up visits to the Sandwich Islands, the Holy Land and Europe, a self-made successful writer who simultaneously delighted and scandalized the literati, an international celebrity, a publisher, a would-be entrepreneur and patron of invention whose bankruptcies were followed by a world-wide lecture tour, the boy from literary domestic at "Oxford" (arriving with Kipling, Rodin, Saint-Saëns, General William Booth and the Duke of Connaught).

As early as the 1870s Mark Twain discovered that he could hold spell-bound the large audiences who sought entertainment and instruction in the public lecture hall. Americans and British alike were fascinated by his first-hand accounts of places (even in America) that they were unlikely ever to visit and by the idiosyncratic way in which he retailed that information. Hal Holbrook's dedicated impersonation of him lecturing and reading has filled theatres since the 1950s as it did in London again last May.

Cinema, television, colour photography and colour printing (all of which Mark Twain would have happily exploited) have reduced the interest-value of his unillustrated travel books, and others of his works have been unlucky in other ways. I once heard a British academic reduce an American Melville expert to near-apoplexy by observing that *Moby Dick* is "only a kid's book", but both *Tom Sawyer* and *Huckleberry Finn* suffered for years from that dismissive formula (despite the banning of the latter from some American public libraries), and until relatively recently *A Connecticut Yankee* was accepted simply as farce, while *Pudd'nhead Wilson* was almost totally neglected.

What survived intact and almost too vigorously was Mark Twain the humorist, fruitful source of material for after-dinner speakers who probably never read his books but quote his sayings with relish, even when they are apocryphal. Towards the end of his life, looking again at *Mark Twain's Library of Humor*, an anthology published in 1888, he declared "This book is a cemetery". The words in it were forgotten "because they were merely humorous. Humorists of the 'mere' sort cannot survive. Humor is only a fragrance, a decoration".

When he continued: "I have always preached. That is the reason that I have lasted 30 years" his tongue was not wholly in his cheek, but he might have demurred at the Russians' solemn argument, from this statement, that his work must be read as social criticism garnished with humour. There is undeniable social criticism in much of it, and some of Hal Holbrook's London audience may have been surprised by the typically and



Mark Twain: the return of the comet

chagrins, undervaluing the fun. However, merely society but "the damned human race" in general incurred his repeated censure, and the theological implications of that phrase are, on occasion, relevant too.

Relying on a straight-faced understating of the outrageous, Mark Twain's humour can still appeal to readers who know nothing of the American oral tradition of the tall tale from which it derives. It invests the idioms and the rhythms of everyday speech with an imaginative originality that is then played down in the delivery. Its chosen form is the anecdote presented as a personal reminiscence and with an apparent indifference to literary criteria.

The Oxford honorary degree was his fourth — he collected them, he said, with a delight that an Indian collects scalps; a doctor of literature at Yale, he claimed he was "not competent to doctor anybody's literature but my own", and he welcomed the Oxford D.Lit. as "all clear profit, because what I don't know about letters would make me a multi-millionaire if I could turn it into cash". This is neither mere facetiousness nor mock modesty.

A born raconteur, he succeeded in translating that skill into the medium of print, convinced that the language of literature should differ in no way from the language of everyday life. His contemporaries, American and British, accepted this unorthodox approach because the vernacular dialect of the South gave it novelty and the personae of his narrators caught their imagination. When Hemingway also modelled his written language on the spoken contemporary idiom but without regional or humorous overtones he encountered greater hostility from the pundits, though his was a more conscious attempt at creating a new literary style than was Mark Twain's spontaneous yarning. (It might have been Hemingway, not Pudd'nhead Wilson, who coined the aphorism "As to the adjective: when in doubt, strike it out".)

In Mark Twain consistency between style and attitude reinforces the "preaching". An opposition to pretensions and superiority, often (as in the *Yankee*) elevated into a political principle of democratic egalitarianism, was reflected in the directness of his language. It became a tool of

literary criticism, as in his contrasting the idiomatic in Natty Bumppo's speech patterns.

In attributing the American Civil War to the corrupting effect of the novels of Walter Scott on Southern manners and the whole ethos of the ante-bellum South, Mark Twain was not merely joking. His own form of expression was perfectly adapted to the deflating of affectation, literary, political, social or moral, and thus transcends "mere humour".

His reputation began in 1867 with "The Celebrated Jumping Frog of Calaveras County", the short-story-length tall tale that became his trademark, but a string of such anecdotes, acceptable in its inconsequence for the hour's duration of a popular lecture, is only at some aesthetic cost sustained at book length. The shape of his first book, *The Innocents Abroad* (1899), was determined by the itineraries of the wealthy tourists he accompanied.

For us the humorous digressions eclipse in interest the more formal descriptions of scenery and cities which our predecessors found so instructive. I have a copy of the book in the margins of which its Victorian Mahanian owner conducts a long dialogue with the author, especially in the section dealing with the Holy Land, sometimes approving, sometimes dissenting vigorously, until his final endorsement, "Well written, Mark!". Similarly, for us *A Tramp Abroad* (1880) is primarily a humorous book, though *Roughing It* (1872) is still an evocative account of the silver frontier and *More Tramps Abroad* (1897) is eloquent on race relations in Australia and South Africa.

Today his seriousness is more usually sought in his novels, but there his literary model is the rambling form of the picaresque. When, towards the end of his life, his thoughts turned understandably to autobiography, his procedure was to dictate at whim whatever recollection came into his mind. To William Dean Howells, whose literary judgement he respected, he argued that this scheme was "only apparently systemless": it adopted "a system which is a complete and purposeful jumble".

Howells knew him too well to challenge this sophistry, but Mark Twain had no strong sense of artistic form, his denial of literary pretensions cannot be wholly dismissed, and he never pro-

duced a flawless book. Even Hemingway, with his vernacular "tradition", the fertility of imagination, the humour and the splendidly iconoclastic attitude cannot excuse the limitations of taste, of execution, and even of imaginative concept that make so much of the other work uneven.

Battalions of critics have charged into explanations of his popularity and greatness, or denials of them: I find I have accumulated more than 40 such volumes myself and there are certainly more. Many are stimulating but all stand condemned by their subject itself: "I believe that the trade of critic in literature, music and the drama is the most degraded of all trades and that it has no real value". Others too have questioned this expenditure of scholarly activity on a popular humorist, yet in at least one respect some scholarship was long overdue.

Edmund Wilson in 1961 was urging the need for an edition of "the American classics" like "Éditions de la Pléiade"; he instanced "Mark Twain's posthumous writings" as "the kinds of things that, after being first published in expensive editions, are likely afterwards to be sold to the paperback". Yet when, in 1968, the Center for Editions of American Authors launched just such a project Wilson denounced it roundly as "an academic racket that is coming between these writers and the public". The debate was energetic, but the project led to definitive editions of several of Mark Twain's books (among many others), made the more necessary by piracies and Mark Twain's own carelessness which had produced extraordinary variants in many of the extant texts.

For instance, bibliographies had always accepted that *More Tramps Abroad* was simply an English title of *Following the Equator* until as late as 1965 when (if I may be forgiven the immodesty) I pointed out that the English text was half as long as the American, that each contained passages that were not in the other, and that the book appears to have sold much better in England than the US.

If Edmund Wilson's allusion to "Mark Twain's posthumous writings" implies work left unpublished after the departure of the two comets in 1910 he can have had no idea of the vast amount of letters, notebooks, drafts

and variants among the Mark Twain papers in the University of California's Bancroft Library. Much is in manuscript, not always easily decipherable. Some, in typescript, represents the work of Albert Bigelow Paine, Mark Twain's secretary and literary executor, on originals not all of which have survived.

Paine was not always reliable. His selection of Mark Twain's letters was so doctored as to be at times positively misleading. He edited some of the dictated material in a similarly protective manner, and at least two later scholars have enlarged and reconstructed the autobiography in ways different from his.

Valiant work has been done on the Mark Twain papers by successive custodians, their task further complicated by the earlier scattering of so many similar documents among other libraries all over the US and in American and British publishers' archives. Authoritative and scrupulously edited collections of many of these multifarious papers have appeared in an impressive series of volumes — a project of which Edmund Wilson would not have approved and by which Dr S. L. Clemens would have been amused, though more flattered than he would admit. Works for the specialist, yes, and fewer of them likely to become paperbacks than Wilson envisaged, but nevertheless valuable.

The title of Justin Kaplan's seminal biography, *Mr. Clemens and Mark Twain*, indicated the crucial problem for the critic. Mr Clemens is no more Mark Twain than he is the boorish ignoramus of *The Innocents Abroad*, *Huckleberry Finn* or *Hank Morgan*, despite the chameleon skill with which he impersonates all four. Mark Twain's statements about Mr Clemens, even in the autobiographical pieces, cannot be taken at face value without expert editorial guidance, and that must depend on the unpublished personal material.

The relationship between the definitive text, drafts and variants can often help to disentangle the "preaching" from the humour, to increase our respect for Mark Twain's craft, of Mr Clemens' letters and notebooks can illuminate all these matters. The ghost of Edmund Wilson insists on the possibility of publishing the results in readable form without publishing all the data. Computerized collating processes make it all too easy to overwhelm the reader with minutiae in more detail than he needs, and many letters and notebook entries are ephemeral or no longer intelligible. Why print them?

First, because there can never be any single, received and undisputed answer to these problems. Second, because achieving even a tolerable answer requires a combination of skills: the scholar capable of establishing a reliable text may not have the inclination, the aptitude, or even the time to produce an original critical interpretation of its literary merit. The imaginative critic capable of that may be neither able nor inclined to do the editorial spadework, though he may sometimes like to verify the data. Third, because successive generations will attempt their own re-interpretations.

Printed versions are imperfect substitutes for the original documents, but as funding for research in the humanities decreases fewer and fewer scholars (even in America) will find either the money or the time adequately to consult the originals in the many libraries: their accessibility in print enables some work to continue. If this sounds like special pleading, that seems increasingly nowadays to be the only course open to the humanities in general, and the problems I have identified in Mark Twain studies are by no means peculiar to them. However, if publishing can alleviate the drying-up of research funds, it is the university presses on which presumably we must rely, and how secure is their future either?

As usual, Mark Twain offers some consolation: "It is the will of God that we must have critics and missionaries and congressmen and humorists, and we must bear the burden". All may still be well, then, for Mark Twain and for the scholars when Halley's comet next returns.

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In the Market for more ESPRIT de corps

After several years in the wilderness or, alternatively, on the periphery of higher education, student mobility and international co-operation has, like Uriah the Hittite, suddenly found itself "in the forefront of the battle".

Over the next 15 years, Japan aims at increasing the number of foreign students from the present 12,400 to around 100,000 by the end of the century. The United States is girding up its loins in a similar effort. Though students from Europe are numerically less important than those coming from the Pacific basin, there has nevertheless been a significant increase in the numbers of European students — some 4.7 per cent more than in 1984.

Patterns of student exchange reflect many common things: language, earlier (as during the colonial period) and the need to acquire specialist skills not available in the home country. The classic model behind this process is one of knowledge and cultural transfer, though more lately oriented towards technology and skills transfer. Times change and with them, priorities and goals, and if cultural transfer is seen as less legitimate, that of technology has, if anything, become more pressing.

Such exchanges have, as a matter of fact and record, direct consequences in the areas of science policy, research capacity and economic development. To be sure, familiarity with other cultures and countries is, if anything, as important today as ever it was. Indeed, with the increasingly international nature of business, industry and commerce, arguably it is more so. And there are solid rewards in terms of qualifications for graduates with such qualifications from more than one country. In France, for MBA are at least 40 per cent higher than for those with home-grown master's degrees.

For the past 10 years or so, student mobility has been one of the major elements in community higher education activities, along with recognition of academic diplomas and the fostering of individual links between higher education establishments. Though successful in arousing considerable interest — the number of applications by higher education students for commission support under the joint year — it has tended to remain relatively modest in terms of the number of students involved.

Current estimates reckon some 0.4 per cent of the four million students in higher education across the Ten have spent some time studying in countries other than their own. Most of these are, in effect, not

covered by commission-sponsored programmes.

In its "pioneering" days, student exchange in the European Community turned essentially around the time-honoured notion of international understanding and exchange of views among young people who, in the future, would form the basis of Europe's elites. This role remains and indeed, under prodding from the European Parliament and the summit meetings of Fontainebleau and Milan, received even more solid backing. Within this latter perspective, it has assumed a new and significant element in the building of what has been termed "people's Europe".

Current commission thinking, revealed last week by Peter Sutherland, commissioner for social affairs, education and training, is now moving onto a broader plane. In sheer quantitative terms, the commission reckons that student exchange between member states should involve some 200,000 students by 1992. And other sources, more optimistic, have mentioned the figure of 10 per cent of students in higher education spending part of their studies abroad.

The reasons behind this great leap forward are many. First, the community is moving towards a new phase in its development. In officialdom, this involves "completing the community's internal market" remaining barriers to free exchange of goods and mobility of persons across the Twelve.

Over the past four or five years, a number of initiatives have been taken in this direction, the main purpose of which has been to lay down the basis for cross-community co-operation in the areas of research and development, concentrating mainly in the "high technology" fields. ESPRIT (European Strategic Programme for Research in Information Technology) is one. RACE (Research and development in Advanced Communications in Europe) is another. Research in technological collaboration.

The second is the development of the knowledge and training base in higher education to extend this further and, no less important, to foster closer links between higher education and industry.

In the year of Halley's comet, the temptation to mark the event with a suitable acronym could scarcely be resisted. COMETT (Community Action Programme in Education and Training for Technology) is an acronym from several points of view.

It has several elements in it: the drawing up of a European network of university-industry training partnerships; the establishment of university-industry-community exchange schemes for academic staff;

the development of European distance-learning systems. In more concrete terms, it is hoped, during the first phase of this programme from 1986-89, to give some 10,000 technology and engineering students the opportunity to spend between six and 12 months in a firm in another member state. Grants of 4,000 back this.

Clearly, student and staff mobility occupies a new niche in community strategy. It has, in effect, become an integral part of the community's medium-term industrial and technological counter-offensive to the US and Japanese challenge.

In the year 1984-85, under the joint study programme, some 225 grants were awarded, totalling some ECU1,300,000. Though links between higher education institutions tend to group around the big three — the United Kingdom, France and West Germany — recent years have seen increased interest among other member states, particularly Ireland, the Netherlands and Italy.

The type of disciplines involved in the programme reflect to some extent the "cultural" and language bias that is usually found in student exchanges. But there are encouraging signs that programmes involving engineering, technology and computer science along with natural sciences are also profiting from the opportunities presented. Over the 10 years from 1976 to 1985, just under 15 per cent of all grants were made to the former and 8.1 per cent to the latter. Languages and literature accounted for 11 per cent and social science, history, economics and politics 17 per cent.

From the standpoint of British Institutes of Higher Education, the development of links with their all the programmes so far supported, two-thirds have involved British institutions. This suggests, of course, that whatever the future and the commission's aid in from the new perspectives that mobility of staff and students in international co-operation in higher education may bring forth.

Guy Neave

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Pauline Stafford

Close encounters transform to become a touch too much

Some time ago, I was told about a study into the relationship of touching and the establishment of rank order, the role of bodily contact in the formation and reinforcement of hierarchies and patterns of subordination.

Only superiors, apparently, may touch inferiors; the arm round the shoulder is a gesture of condescension and superiority putting us firmly into our place. Thus, I presume, rectors may lay the hand upon principal lecturers, and principal lecturers may patently pat other ranks.

But in case any of you minions in the ranks of higher education were considering taking that ladder of status one stage further - beware. When lecturers touch students, they don't reinforce hierarchy. They lose their jobs. At that point, a different meaning clarifies out of the polysemous body language. Contact as condescension becomes feeling up as lechery.

The feminist colleague who communicated this piece of research to me tested it empirically on her own superiors, with predictably disconcerting results. With superiors (as they usually are) men, and a woman inferior, touching carries loaded messages not just about hierarchies, both sexual and social, but about desire and intention.

to sexuality is so complex now, how much more so will that apply in a post society in many ways different from her own.

Like any other language, that of the body is a system of symbols by which we communicate. As a historian, I cannot simply accept that those symbols are fixed and unchanging in their meaning. When, for instance, I am told that two 12th-century kings made a treaty in bed, I am not convinced, I feel justified in making such an assumption about the lyrical effusiveness of 12th-century monks in the poems and letters addressed one to another, not until and unless I have also examined the mental framework within which they wrote and the friendship networks which sustained their world of clientage.

Assumptions about repressed sexuality could easily colour our entire picture of the world of the early 19th-century intellectual were it not that books such as David Newman's *Godliness and Good Learning* have shown that such a colouring would be reducing a rich spectrum to monochrome. Those 18th-century intellectual bodies may not all have been gay, especially as we now would understand that term.

The history of sexuality is a current growth area, not necessarily fed directly by crude economic calculations but by

especially vigilant self-consciousness in our approach to the past. We live in a society as obsessed with sexuality as was the mind of a medieval churchman. He too seemed to share that myopic vision of the human body as a locus of sexual pleasure.

It is scarcely surprising that, by the end of the Middle Ages, confessors were being advised not to read out the checklist of sins to jog the penitent's memory lest more be learnt in the process. Where we are more sexually confident, our clear recognition of their blinkered obsession should be a warning about the dangers of our own.

Kings' homosexuality is readily assumed

It may well prove the case that sex is such a basic human urge that its expression and direction are likely to be one of the most universal phenomena. Yet sex as a fundamental drive and its expression through sexuality are not the same. The latter is much more likely to be culturally determined, and the assumption that certain activities or actions are always and everywhere of an erotic nature requires not easy acceptance but the most rigorous proof.

Our own concern with sexuality is a potentially distorting mirror on the past. We have tended in our own society to reduce bodily contact to a minimum and to interpret what survives in a specifically sexual frame. Yet the use of touch to express subordination suggests, even now we are far from having purged that language of all other possible meanings.

To impose uncritically so simplified and impoverished a view of that vocabulary on people in the past would be to do potential violence to their experience, and miss the opportunity for widening our own self-understanding through dialogue with that experience.

It may not provide the key to interpreting the professor's every tactical strategy, but we owe it to the enrichment of our insight to try to understand a context in which Henry II and Philip Augustus might be in bed making a treaty rather than love.

C. J. Dickinson gives his view of the Bart's merger plan

Seventeen years ago, a Royal Commission chaired by Lord Todd recommended that the 12 London medical schools should join up into six parts, and that each should be associated with a multi-faculty institution. Some amalgamations have now taken place, though none of those originally proposed.

The Westminster is joined to Charing Cross, but without becoming the medical faculty of Imperial College, as envisaged by Todd. Guy's and St Thomas's have joined, and the Middlesex and University College Hospital. Only in the latter case can it be said that there is a multi-faculty environment. St Bartholomew's and the London Medical College have moved together over the years and have established several joint clinical academic departments, but have so far retained their independence.

King's has retained its geographical separate clinical school several miles from its pre-clinical multi-faculty environment, but the pre-clinical students of the Westminster have been taken out of the multi-faculty environment of King's College and given to the single-faculty school at Charing Cross. St George's, St Mary's and the Royal Free have been firmly established as independent single-faculty medical schools, in which pre-clinical as well as clinical training is given.

London University, and (of course) the University Grants Committee have therefore not pursued any consistent policy for medical education in London over the last 17 years. Instead each possible amalgamation has been considered pragmatically and rationally. "BLQ" (the proposed joining of Bart's, the London and Queen Mary College) is the notable exception.

Queen Mary College, though nearly a mile from the London Hospital, is adjacent to its Mile End branch, and moving the London pre-clinical department to OMC and integrating them fully has obvious advantages for the London (since many of the department's students are rebuilding anyway) and for OMC (since its academic mass is biological sciences (double in size)).

From the time that Todd's proposed pre-clinical departmental amalgamation was rejected, the reasons are simple.

The Bart's purpose-built pre-clinical buildings in Charterhouse Square, close to the hospital, are in good condition and represent an investment of about £10 million at today's prices, though their site value after demolition is only about £2 million. They comprise one of the finest university campuses in the country in which student activities of many kinds - sporting, dramatic, musical, artistic - flourish. Removal of the pre-clinical departments would leave the clinical school academically isolated - in a way that, for example, King's College clinical school is not. Integration of OMC pre-clinical and Bart's clinical teaching, and collaborative research between pre-clinical and clinical departments would probably cease altogether through the separation by four miles of dense traffic of St Bartholomew's from Queen Mary College.

Despite these arguments the university insisted on going ahead with Bart's in principle, and in 1971 obtained permission, by a direct threat to cut funding. Nothing much happened for nine years, because no building monies were available. Then in 1980 Lord Flowers (now vice-chancellor of London) chaired a working party which recommended an economical pre-clinical amalgamation of Bart's and the London on the Charterhouse site, close to Bart's hospital. The UGC then played the joker, as it were, by inserting a footnote into Flowers' report to the effect that if planned as one scheme, with clinical and NHS components, the scheme could be charged to the "Medical Sub-Head" - money available to the UGC under certain conditions.

Despite the enormously greater cost of BLQ over the Charterhouse scheme (£12.5 compared with £1.8 million) the university opted officially for BLQ. London University has continued to regard the BLQ scheme as providing manna from heaven, which would strengthen QMC by the injection of sizeable pre-clinical departments, and by substantial upgrading of the college's infrastructure, including library, refectories and common rooms.

Since its agreement under duress in 1971, Bart's medical college has become progressively even less happy with the scheme. When replying to the university in 1983 the college could not bring itself to withdraw totally. But the whole picture was far from clear, the governing council reported to the university that it felt "no longer bound by the original commitment to the BLQ project". The BLQ project, I regret still more that the views of Bart's academic staff have recently been totally ignored by the UGC, to whose members these views must have been known, especially since the former UGC chairman, Sir Edward Parkes, wrote about BLQ in 1981 that "without a spirit of enthusiasm and goodwill... we do not believe that any merger can succeed anywhere".

A watershed has now been reached. On the one hand the UGC is prepared to contribute large capital sums to, and underwrite, the BLQ project, and to write off the huge capital investment already made in the existing Bart's pre-clinical buildings at Charterhouse. On the other hand, Bart's Medical College has now made up its mind, finally, that it cannot agree to the removal of its pre-clinical departments from the Charterhouse precinct. After two long meetings, the first addressed by the vice-chancellor (who spent out all manner of dire consequences if the college withdrew) the council of Bart's Medical College voted *non con* to withdraw from the scheme.

What were the reasons? Not for a change of heart our feelings have not changed - for reluctant acquiescence turning to complete rejection? In the long-term use of the Mile End Hospital for acute medicine and surgery, nor for the retention of its accident and emergency department. It therefore becomes difficult to see much future for the integration of clinical and pre-clinical teaching at OMC, and impossible to see realistically how Bart's clinical staff can play any part in such activity.

In addition, since 1971, collaboration both in research and teaching between clinical and pre-clinical departments has increased greatly. The academic strength of Bart's has grown apace, and it feels that it can stand on its own feet academically. A recent public appeal raised some £3 million for a new research building, which was

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The pre-clinical buildings off Charterhouse Square.

Fighting all the way to altar

opened in 1983. A new clinical educational building was opened in 1980, and further accommodation was opened in 1985.

There are already four clinical academic units in Charterhouse, and plans are well advanced for a further one. The research mass in the Charterhouse precinct is therefore growing rapidly, despite the cutbacks in UGC-funded pre-clinical staff which were made to meet UGC norms, within declining budgets. This year the college and hospital research departments have earned about £7 million of externally-obtained funds - a sum considerably more than our total recurrent university grant. Last year, members of the college were awarded almost twice as many higher degrees as were obtained by any other undergraduate medical school in London.

We have so far managed to keep the college out of debt, and have one of the least costly medical schools in the university.

Medical schools have never been the most popular university faculties with vice chancellors and principals, because of their huge consumption of resources. In the last few years, academic medicine, hitherto protected, has been under continuous threat. The commitment of large sums of UGC and London University capital to a project which is now widely regarded, both within and outside the university, as both financially unsound and educationally dubious will have the result of weakening seriously the case for continuing adequate financial support from government for universities and medical schools in the future.

However, everyone at Bart's hopes that some compromise can be found to allow a smaller scheme to go ahead (at a lesser cost) which will both rehouse the London pre-clinical departments at OMC and at the same time upgrade in other ways the infrastructure of that college, but which will neither threaten nor imply the loss of our pre-clinical school. The argument seems to be that Bart's by its intransigence, is preventing the university from building up OMC. This need not be true at all, what is needed is a change of attitude and a change of OMC.

Finally, if the multi-faculty environment ideal is really the main argument for destroying Bart's pre-clinical school, it is worth remembering that the pre-clinical school precinct at Charterhouse is almost adjacent to a well-known multi-faculty institution - the City University. Perhaps this is a good time for the UGC to reconsider the possibility of Bart's joining the City University and leaving London University and leaving London's huge academic structure.

Women's studies

Trying to decide what is and what is not feminist research is no easy matter. A beginning may be found by exploring the meaning of the term "feminist". Even a cursory glance at the literature reveals that this term has been defined in a number of ways. Janet Radcliffe Richards, for example, argues that the essence of feminism is the belief that women suffer from systematic social injustice because of their sex. Ann Oakley suggests that feminism is about putting women first, about judging their interests to be important and insufficiently represented within mainstream politics and the academic world. Michele Barrett points out that feminism focuses upon relations of gender and, in particular, of the oppression of women by men, while for Liz Stanley and Sue Wise, feminism is a way of living their everyday lives, of rejecting externally imposed frames of reference and for constructing their own ways of seeing and understanding.

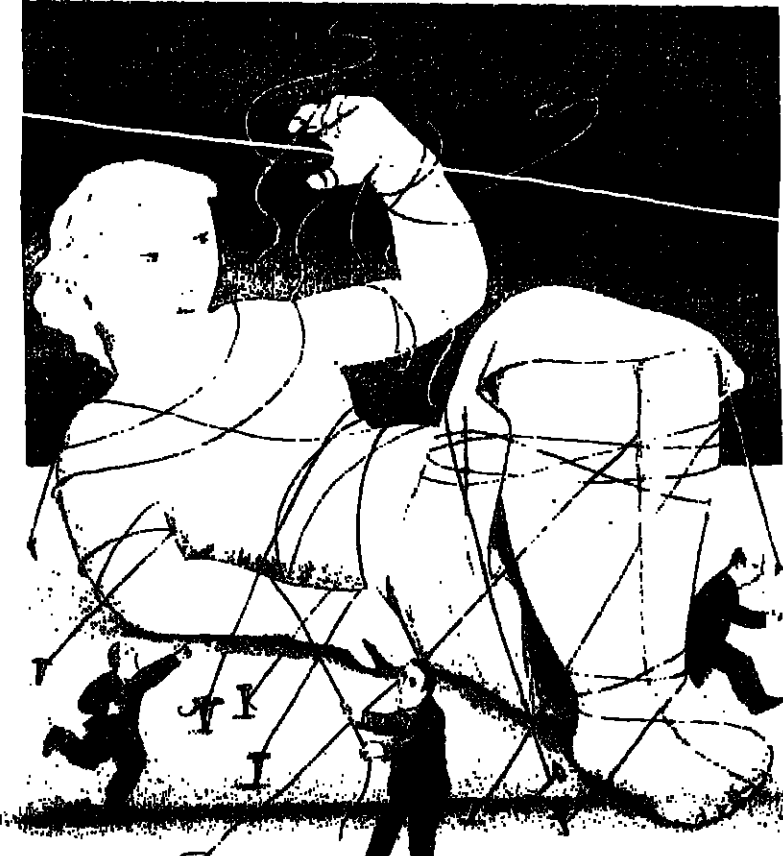
Feminism involves all of these things - and more. Above all we must not forget that feminism is a political movement. And as a political movement it is a broad church with many complex internal divisions - such as radical feminism, socialist feminism, Marxist feminism, liberal feminism, revolutionary feminism and cultural feminism. The debates between these groupings are not the only ones internal to the movement however. Women from different social class backgrounds, different walks of life, different races, different disabilities, different ages and different religions become feminists. And their voices add yet other dimensions to the issue of defining what feminism is. At one women's studies conference in England in 1984, for example, about 35 working class women expressed their anger at the "academic" and "middle class" tone of the meetings. Accusations of racism are just as frequently made. Is one issue that unites all feminists - the wish to end the injustices that women experience because they are women. And it is within the arena of feminism as a political movement, where the unity between theory and action is stressed, that the seeds of feminist research are forged.

It follows therefore that feminist research is not simply something that is done by academics. Indeed, many feminist researchers do not hold academic jobs. Neither is feminist research seen exclusively in terms of research in the academic sense. A large number of feminists, and especially radical feminists, would claim that describing and analysing the contradictions of life as lived by any one woman in a male dominated and male oriented society is just as much research as the "scholarship" traditionally associated with academia.

The starting point for all feminist research, of whatever emphasis, is a questioning of the dominant forms and content of knowledge since it is claimed that such knowledge is created by men and through the eyes of men. In particular, embedded within mainstream knowledge in higher education is a male-centred paradigm where men and man's experiences are taken as the norm, the "central" and "correct" way of seeing things. Generalizations about "mankind" are usually that, statements about men that are assumed to apply also to women. Women within such mainstream knowledge are often hidden or, if mentioned at all, presented through male vision as wives, mothers, mistresses, secondary breadwinners etc. It is this record, where women have been presented on a male landscape, that many feminists seek to put straight, making women visible where they have been hidden, presenting women as human beings in their own right.

However, much more is involved in feminist research than making women visible in their own right since feminist research is not defined by its subject matter. Research about women is not necessarily feminist research. Indeed, much of it is non-feminist. Feminists often study women simply because they have been obscured from view but they could just as easily study men, children, the labour market, cultural forms and any other topic. Neither is all research undertaken by women feminists. Many females still operate within a male-centred paradigm. What distinguishes feminist research from

Some present day writers claim that feminist thought can be traced back to early times, such as the age of Sappho. Others focus on the 19th century, and the struggles of the organized women's movement to make inroads into all male preserves, such as higher education and the professions. Though many of the last century's struggles contributed to what is commonly called "first wave" feminism, it is particularly with the "second wave" of the organized women's movement, evident from the mid 1960s, that feminist thought, feminist writings, feminist action and feminist research has blossomed. But what is feminist research? How can we define it?



Raised voices in an unjust world

other forms of research is not that it may focus on women and be done by women but a particular approach, namely an examination of the power relationships between men and women, and of the sexual division of labour within all spheres of life.

A key, though by no means universal, concept in feminist research is patriarchy, that process by which men dominate and exercise control over women. And it is here, in the meaning attached to this word and in its use, that we find one of the key differences between the two main groupings within the women's movement in this country - radical feminists and socialist feminists.

For radical feminists, such as Dale Spender, the social, political, sexual and economic dominance of men over women is seen as the source of oppression for women. And this is something that all females share in common, irrespective of their social class background, their age or any other factors. Women's liberation will only occur when patriarchal control has been swept away. For socialist feminists, on the other hand, the subordinate position of women is related to the control that men exercise over women and to the nature of capitalist society. Women's liberation will only be realized when patriarchy has been overthrown and a socialist society built. Within the socialist feminist camp, some emphasize the capitalist side of the coin much more than patriarchy while others hold the two dimensions in balance.

Socialist feminists tend to argue that patriarchy, in the sense of the universal dominance of men over women, offers an analysis that is too simplistic and too deterministic. Such points have been forcibly put in papers by, amongst others, Michele Barrett, Mary McIntosh and Sheila Rowbotham. Rowbotham, for example, claims that "patriarchy" implies a fixed structure which carries no notion of how women might act to transform their situation.

Radical feminists, on the other hand, such as Christine Delphy, disagree with such a line of argument. Delphy pertinently asks why socialist/

Marxist feminists are so keen to defend their male comrades. In particular, she accuses Barrett and McIntosh of conveying a hidden message - the exemption of men from all responsibility for the oppression of women.

Such lively exchanges have been further fuelled by the critiques of black feminists who point out that feminist theory in this country is mainly written by white, middle class, intellectual women who are relatively privileged. In particular, black feminists such as Hazel Carby assert that white feminists have defined patriarchy in ethnocentric terms so that it holds little relevance for the daily experiences of black women. Racism, she continues, ensures that black men do not have the same relations to patriarchy and capitalist hierarchies as white men since it divides rather than unites men. In relation to women, the interesting title of Carby's article, "White woman listen!" *The Empire Strikes Back* (1982) is a command that no white feminist can ignore. Indeed, the feminist researcher using the concept of patriarchy must be sensitive to the debates and controversies surrounding the concept and be wary of using the term as a "catch-all" phrase that explains everything that happens to women.

What happens to women day by day, in a range of activities, is important to the feminist. Indeed, another key element in much feminist research today is that women must be heard. Thus it is often stressed that an attempt must be made to capture the personal experience of woman and to let their voices speak since this will challenge the male paradigms that have governed research so far and reveal the varied nature of women's oppression. The emphasis upon the importance of women's experience has meant that qualitative rather than quantitative research is favoured. Participant observation, interviewing, oral histories, life histories, and documentary analysis are more commonly used to collect data than a range of statistical techniques.

The stress upon personal experience continued on page 17

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Women's studies ♀

Ten years ago *The Times Higher Education Supplement* printed a full page review of a book entitled, *Women at Cambridge*. Its subtitle was and is perhaps more significant - "A Men's University though of a Mixed Type". The book revealed how, more than 100 years ago, a nucleus of determined and intelligent women supported by a tiny minority of enlightened men launched a battle which their successors still fight today: a battle to gain an education and status within Cambridge University comparable to the men whose traditional preserve that most hallowed of institutions has been for centuries.

Today, when women have enjoyed full university membership for nearly 40 years, when all but one of the colleges now accept women, and when the first female vice-chancellor of the university has only recently retired, some might argue that finally their battle has been won. In reality, the success of women at Cambridge University is less obvious. While a third of undergraduates and PhD students are now female, the level drops dramatically in the numbers of professors, readers, lecturers and assistant lecturers - those with senior university status. In the faculty of modern and medieval languages for example, 25 per cent of the senior membership is female, representing the highest proportion of any faculty. In the English faculty, another area in which women have always been more successful, senior membership is down to 17 per cent. Thereafter levels fluctuate between about 8 per cent and 5 per cent falling even lower in the physics and chemistry departments where there is a single woman.

These figures should come as no surprise. Women have been at the university in significant numbers for less than 15 years. Senior membership tends to be predominantly male.

who were undergraduates in the early 1970s and are now eligible for university teaching officer positions. Because of their disproportionate numbers in their earlier academic careers, more men apply and are therefore accepted for senior academic posts.

However, the figures become more startling when compared with the numbers 50 years ago. In 1935 the history faculty had 34 senior members of whom two were women. Today the numbers of senior members has risen to 58, yet there is only one woman in their midst. In the mathematics faculty the position is even worse. In 1935, two women shared senior posts with a mere 28 men. Today the same number of women compete with more than double the number of men.

Since it is those who hold senior membership who also hold the reins of power and influence in the university, these levels of senior female membership are perhaps the real indication of the degree of success women have achieved in the last 100 years. It is the senior members who sit on boards of electors and faculty boards and are responsible, among other things, for influencing academic and financial policies within the university. Yet only about 5 per cent of the membership on these boards is female.

What effect this preponderance of men has on women's chances and ambitions within the university is difficult to define. Marian Jeanneret, one of two female fellows at Trinity College, pointed out that women academics tend to be seen as role-models by women undergraduates, and their scarcity could have a profound effect on the developing ambitions of the younger women. With many women academics who have achieved senior university status here, she is cautious when trying to analyse women's predicament at Cambridge. The idea that "if you're good enough you'll make it whatever your sex, colour or creed" is prevalent among all the women I spoke to. However, it is the reasons why women fail, first to apply, then to be selected for the top posts, that their anger and disappointment is revealed.

Elizabeth Freeman, recently elected assistant university lecturer in the law faculty, points out that many of her male contemporaries reached this



Clare College: still a male preserve? Right: Dame Rosemary Murray, first woman vice-chancellor of Cambridge.

Pioneers with mixed feelings . . .

Nearly 40 years have passed since

university membership at Cambridge University. Hilary Tagg argues that there is still a long way to go before women enjoy comparable status with their male colleagues



position five, even 10 years ago. She believes that her progress was interrupted early in her professional career by becoming stuck in a very familiar academic rut. This is created by not being able to produce sufficient research, partly due to an enormous load of supervising - the lot of a non-university teaching officer based on a college - and partly because of the problems of raising a young family. "As a NUT," Mrs Freeman says, "you are treated as a second class citizen, required to do a very high proportion of teaching both in the college and for the faculty, and in some cases, a great deal of administrative work as well."

Families are often the great time consumer in a young professional career. Despite the increase in male participation in the home and with the children, the onus is still very heavily on the woman. Lisa Jardine, fellow of Jesus College and university lecturer for several years, admits that even though her husband is "fantastic" with the kids and housework, she still feels guilty about handing so much over to him.

While both men and women take NUT posts, men appear to stand a far greater chance of moving on to the next rung of the academic ladder in a comparatively short space of time. In this case, equality in a selection board may actually be discriminatory against women, who because of other commitments, have been unable to maintain a comparable academic track record.

Lisa Jardine's marathon run in the academic rat race is now reduced to a mere trickle. But in the early years she chose the most difficult area of her field in English literature in order to prove her worth. Along with many other women, she can't help feeling that until as many "ordinary" women as "ordinary" men get the jobs, women will not have achieved true equality. Instead, the position today, at 50 and 100 years ago remains: only the but-

standing women make the grade.

One of the foremost of these is Dame Rosemary Murray. Along with a group of determined and highly motivated men and women, she founded and established New Hall, the third women's college in Cambridge, in 1954. Her career is unusual on two counts, both for becoming a senior member in her chosen academic field in the sciences, and for penetrating the highest echelons of university hierarchy by becoming the first female vice-chancellor from 1975 to 1977. She insists that there is no blatant discrimination against women at Cambridge, and having sat on countless academic boards and committees she is well placed to know. However, she does admit that though significant strides have been made to improve women's position in Cambridge, there is still a great deal of ground to cover, principally in eroding the ingrained male character of the whole structure of the university.

The guiding principle behind the establishment of New Hall was to allow women greater opportunity to exploit the advances already made by the pioneering women colleges, and to reinforce their attempts to create a real and widely accepted place for women in Cambridge. Many more women wished to come to Cambridge than could be catered for at Girton and Newnham, and the proportion of girls eager for a higher education was increasing at a higher rate than that of boys.

Thirty years later, those women may now apply to 30 of the 31 colleges but should they wish to take the next step and try to continue their academic career there, they would be well advised to look closely at the college fellowships: of the three colleges which first took the plunge and accepted women in 1972, none can boast particularly encouraging levels of female fellowship. Out of a total of 108 at Kings, all are women - the highest proportion of these three colleges. At Churchill and Clare, the levels are a meagre 6 per cent and 8.5 per cent. Yet

at Girton and New Hall, where men have been admitted for less than half the time women have been allowed fellowships (at New Hall men are only admitted as senior members) the level of male fellowships has already reached 30.5 per cent and 18.4 per cent.

Despite these anomalies, Cambridge remains capable of displaying surprising broad-mindedness towards aspiring and ambitious women. Nearly three years ago, Churchill appointed the first female counsellor at an Oxbridge college, Philippa Comber finds the often implicit, sometimes explicit, sexism at a predominantly science orientated college difficult to cope with, but points out wryly that many of those who take advantage of the service she offers, need help because they can't cope with it themselves. Her clients range from students and fellows to college staff.

Even this term Cambridge has managed another first in its colourful history of dealing with women. From October 1 the chaplain at Clare college will be Vivienne Paul, herself inspired by her successful appointment. She accounts for it as partly due to the new dean at Clare, a vivacious character who managed to get himself arrested at Molesworth peace camp in the first few days of his appointment at the college.

Indeed the irony of this admission is one which pervades the future of women at Cambridge. While Dame Rosemary Murray is "encouraged by what's happened", and feels "optimistic about the future", many of the women I spoke to conceded that the way ahead for women was through the liberal-minded feminist men who have already made it to the power positions, and whose arguments are more likely to sway opinion than women at Cambridge are likely to do for a considerable length of time. Until then, women at Cambridge still inhabit "A Men's University though of a Mixed Type".

The author graduated from Clare College in 1983.

First steps of an infant science

Women's studies ♀

Jessica Hall looks at feminist methodology in psychology

On November 30 this year the first British conference on "The Psychology of Women" was held in Cardiff. The conference grew out of an interest in starting a "Psychology of Women" section (open to all members) of the British Psychological Society. The first proposal for such a section has recently been turned down by the BPS council but the response to the conference, both in terms of papers submitted and delegates booked to attend has been very positive and it is probable that a "Women in Psychology" group of some kind will emerge.

The behaviour of women has of course long been of interest to psychologists; in fact it seems that they find women much more interesting than men. One indication of this imbalance can be seen in the last three-month index of *Psychological Abstracts*, where there are 198 direct references to "Human Females" compared to a mere 31 to "Human Males". I fear that this may be because the norm for a person is seen as a white, adult, male heterosexual and that normality is less interesting to humans than deviance. One cannot, after all, imagine a *Guinness Book of Norms and Averages* being a long-running best-seller.

The study of the behaviour of women cuts across many traditional boundaries within psychology but much pioneering work at the moment is linked by the common aim of questioning earlier assumptions based on the male norm and finding less sexist ways of looking at behaviour.

The areas of human experience which are exclusively female, such as menstruation, birth and the menopause form an obvious core of interesting material, along with areas which are predominantly female, such as the effects of rape and caring for babies. A feminist perspective is becoming more and more important in all these areas.

Premenstrual tension, for example has been seen in the past as the product of faulty physiology and evidence of women's unreliability. Feminist researchers are now looking at ways in which PMT might be viewed in a more positive light, perhaps as an opportunity for the woman to see issues and more than one angle or to identify sources of stress in her life. Another about the development of this disorder but without an understanding of women's attitudes towards standards of female attractiveness and of the pressures on women to conform to these standards there would always be a missing piece of the jigsaw.

A feminist influence can also be detected in areas of psychology which are not primarily "women's problems". In clinical psychology, for example, the ways in which women's mental health is put at risk and the ways in which their mental ill-health is defined and treated are being questioned. Obviously sexist definitions of female mental disorder, such as hysteria and nymphomania have been consigned to history but many sexist constructs still abound. Alternative treatments, such as self help groups, support groups and feminist therapy are being developed. Feminist therapy is based on attempts to understand the relationship between the subordinate

advantage, rather than trying to eliminate them or pretending they do not exist.

This style of inquiry has been dubbed "feminist methodology", and has so far mainly been used by female sociologists studying women's issues. Anne Oakley, for example, in her study of women becoming mothers, used her own womanhood and motherhood as an asset in gaining rapport with her respondents, and unlike the ideal, detached interviewer, she did not duck the responsibility of answering respondents' questions about her research or her own experiences of birth and babies.

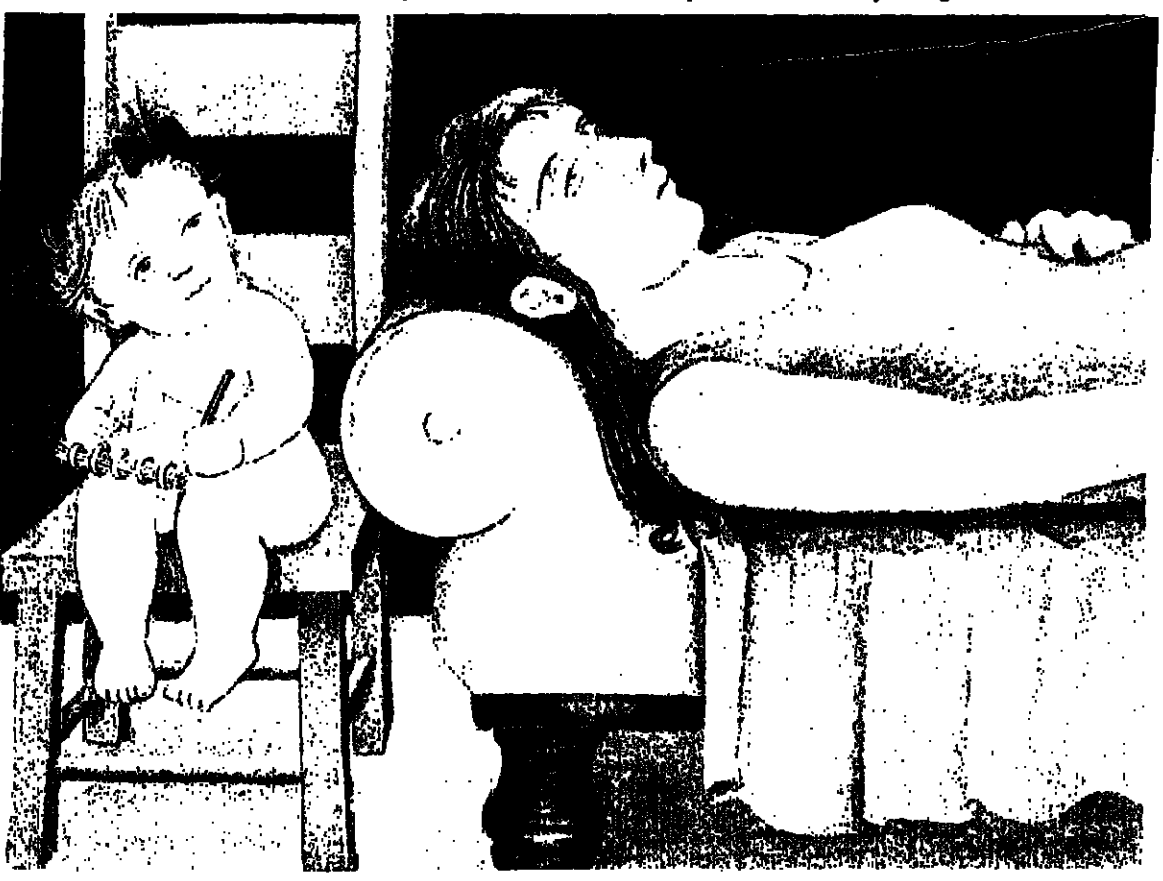
Feminist methodology in psychology is probably best characterized as a baby struggling to be born. Psychologists have worked hard to achieve scientific respectability for their infant science and some have been brave enough to criticize it, even as it has taken its first faltering steps across the playground, for the methodological problems inherent in studying the behaviour of the (often white, predominantly male) undergraduate and the (almost invariably white) rat and generalizing from these studies to the behaviour of the person in the street. In order to gain scientific credibility psychologists have usually opted to study those bits of behaviour which lend themselves to carefully controlled study in the laboratory and mostly have fought shy of even taking a peep at the psychology of love and hate, anguish and delight or power and oppression.

Perhaps psychology has now reached a level of maturity where it can, by giving birth to a feminist psychology, begin to face up to these criticisms and start to redress the balance.

Jourard, in 1968, suggested that there should be a new look at the experimenter-subject unit, that in the case of the experimenter-subject unit, a greater openness and mutual knowledge. This sounds surprisingly like a plea for feminist methodology. There has in fact been some return to acknowledge the relevance of subjectivity of recent years. Subjects in some areas of inquiry, such as human-computer interaction, are being asked to indulge in introspection and to report on their mental processes, and activity that was totally beyond the pale 15 years ago. Perhaps now the time is ripe for feminist psychologists to take up Jourard's challenge and look for new ways of investigating a wider range of human experience.

The questions as to what kind of birth this will prove to be and whether the baby will be a vigorous, healthy or a stillborn daughter are likely to intrigue us for some years to come.

The author is lecturer in psychology at University College Swansea.

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Women's assertion of themselves as social, literary and art critics vis-à-vis men might seem a very recent phenomenon, but in fact runs through our oral and occasionally our written literary tradition, as the folk tale, 'The Cow on the Roof', demonstrates. 'His wife got tired of his grumbling, and one day she told him that he should stay to take care of the baby and the house, to make dinner and to tend the livestock, while she went out and did 'man's work' in the turnip fields. The turnip fields received the best of husbandry that day, but when she ran into the house, the first thing she saw there was Sion [her husband], standing on his head in the porridge.'

Since the beginning of this century, this subversive Eve began to let it all hang out. In 1922, for example, Virginia Woolf was already laying down what was to become a central premise in today's feminist criticism: 'It is probable, however, that both in life and art the values of a woman are not the values of a man. Thus, when a woman comes to write a novel, she will find that she is perpetually wishing to alter the established values - to make serious what appears insignificant to a man, and trivial what is to him important. And for that, of course, she will be criticized; for the critic of the opposite sex will be genuinely puzzled and surprised by an attempt to alter the current scale of values, and will see in it not merely a difference of view, but a view that is weak, or trivial, or sentimental, because it differs from his own.'

In the last 20 years, as part of women's efforts to make women's values more 'visible', an efflorescence of feminist literary criticism has been written which has followed two main, yet fairly limited, paths. One is that of tracing and explicating a supposedly distinct women's literary tradition which exists in its own right but which has been mainly neglected. Ellen Moer's *Literary Women* (1976) and Elaine Showalter's *A Literature of Their Own: British Women Novelists from Brontë to Leavis* (rev. edn, 1982) epitomize this kind of interesting scholarship. The other is that of re-evaluating men's writing from a feminist point of view, such as Juliet Mitchell's analyses, in her collection of essays,

Heroines in their own write

Women: The Longest Revolution (1984), of Moll Flanders and What Maisie Knew.

Has this 'explosion' of feminist criticism had a major effect on our culture? It seems not yet. In *Feminist Theory: A Critique of Ideology* (1982), which is a collection of essays on recent feminist trends, one contributor, Myra Jehlen, glumly summarizes our lack of progress: 'The problem is that the issues and problems that women define from the inside as global, men treat from the outside as insular. Thus, besides the exfoliation of reports on the state of women everywhere and a certain piety on the subject of pronouns, there is little indication of feminist impact on the universe of male discourse.'

Despite the financial success of Virginia and a few other feminist writers here and abroad, the impact of feminist criticism seems to have been made only on women, and on a limited range of women at that. Certainly, young female undergraduates are becoming increasingly aware of novels and criticism by and about women, and are also more willing to discuss openly the prejudices of their male colleagues. But the prevailing assumptions have scarcely been altered: the male-dominated Eng. Lit. canon, for instance, remains fundamentally unchanged.

A major cause of this lack of impact, despite - or, cynics might claim, because of - all this writing, is that it

Women's studies ♀

Jennifer Breen looks at feminist criticism and its impact today



Above, Ivy Compton-Burnett. Left, Nadine Gordimer

called 'established values', as we can see when we read Anthony Burgess' influential *Ninety-Nine Novels: The Best in English Since 1939*. Only 11 novels by women are included in Burgess' 99 and these - apart from those by Compton-Burnett, Manning, Lessing, and Gordimer - are more likely to mislead than disturb the conventional male reader.

Yet Burgess' two guides, *The Novel Now: A Student's Guide to Contemporary Fiction* and more recently *Nine*, are more likely to mislead than disturb the conventional male reader.

What then has happened to the main character in *Good Morning Midnight* (1939), goes even further in disconcerting the reader by revealing the cruel effects of male exploitation of women. Sasha is getting old, is afraid of loneliness, and is sexually and financially dependent on any man she can get. She nevertheless distrusts men, since everyone who has pretended to love her has also abandoned her, but she has no other way of supporting herself. In 1951, Rhys told her daughter, Maryvonne Moerman, had been jailed for three years, and her writing career seemed to have collapsed.

I'm certain, one cure (half anyhow) is to feel that a job, perhaps a good job, is a possibility. Rhys, however ambivalently she conducted her own life, persisted in this belief that women's problems of injustice? They can seldom say: it's thought to be 'women only' reading. Feminist criticism generally is too hermetic and self-regarding as well as pusillanimous. Why doesn't Virginia or any other publisher commission a major female novelist - say Nadine Gordimer or Margaret Atwood - to return Burgess' shrewdness by bringing out our own *One Hundred and Ninety-Nine 'Best' Novels* - a full-scale annotated handbook of the 'best' of all fiction - male and female - in English from Jane Austen onwards. Since at least half of these novels are bound to be by women, such a work should greatly extend the feminist enlightenment of Macholand.

The author is senior lecturer in the department of language and literature in the Polytechnic of North London.

II WOMEN & WORK CONFERENCE - Current Issues and Future Trends

10th and 11th May 1986 at The Strathdon Hotel, Nottingham

This conference will act as a forum for sharing data and experience, bringing together researchers and practitioners, trades unionists, managers and policy makers to review current issues and future trends in women's work. Particular interest will be shown in the impact of new technologies: this will be explored in the light of current research and industrial experience. The conference will look at the evolution, organization and impact of new forms of work; implications for health and safety; and training needs and methods.

The conference is sponsored by, amongst others, Taylor & Francis Ltd, who are launching a new international journal 'Work & Stress', an issue of which will contain the papers from the conference.

Further information on the conference is available from Paula Maxwell, Maxwell & Cox, Greengables, Nicker Hill, Keyworth, Nottingham NG12 5BA, tel (0607) 2086; further information on 'Work & Stress' is available from the publisher.

WOMEN IN SCIENCE A Report from the Field

by Jane Butler Kahle

This book was written by practitioners for practitioners. The contributors range in age and experience from a new graduate student to an emeritus professor. Their areas of expertise are diverse, and they work in a variety of educational institutions across the US. They have written about issues as entrance patterns, retention and reward systems, pay scales and recognition patterns, underemployment and underutilization of women, and the special problems of minority women. Inequities in the education of women scientists are explored from primary schools to post-baccalaureate positions. The important role that professional societies play in recognizing and rewarding women in science is discussed. The final chapter places their role and status today in perspective and envisions their prospects tomorrow.

Women in Science is published by Falmer Press, a member of the Taylor & Francis group, at £13.95 (hardback ISBN: 1 85000 019 0) and £4.95 (softback ISBN: 1 85000 020 4) and contains 196 pages.

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Hypotheses about the evolution of society set one beginning for anthropology, some 120 years ago. The capacity for social life can be regarded as humankind's special adaptation to its environment; culture forges solutions to problems presented in the first place by nature. However, the social anthropology which flourishes today in effect embraces the opposite proposition: societies do not only create problem-solving mechanisms for human living but are themselves problem-creating.

That social anthropology seems prepared to take on the study of all societies at all times and places suggests one immediate claim to dislocation. It is in a unique position to generalize about the nature of human society, from accumulated empirical knowledge about societies across the world. That knowledge is now substantial. Yet anthropology has not become an all-embracing human science, as institutionally vast as its subject matter, humankind. And, in Britain, although social anthropology enjoys an impact out of all proportion to the size of its professional body, it is a 'small subject'. Should one's claims for it therefore be small?

Social anthropology's shift away from the evolution of 'societies' towards the study of 'societies' seems fateful. For there was a second beginning 80 or 90 years ago in what drove one early expedition into the field, the study of cultures that were vanishing. True, the talk nowadays is of transformation and development, but in that case possibly contemporary social anthropology is best regarded as an adjunct of social geography, political science or third world history. Indeed here there is something of a *rapprochement*. The subject appears academically popular as never before. The usefulness of social anthropology to colleague disciplines rests on its sustaining a (much debated) internal orientation towards societies conceptualized as 'other', as a source of deliberate comparison for whatever social institutions and relations are under study. But such an orientation also brings problems of its own which cannot be immediately translated into general concerns. This is not a trumped up claim to separate disciplinary status; it endorses a social realism originating from encounters with social others.

Thus social anthropology's place in this country often say their subject really began 60 years ago with the publication of two monographs based on extended fieldwork. Today lengthy fieldwork or writing ethnographies are no longer the prerogative of anthropologists - any more than is the idea of becoming a participant-observer. A geographer may spend a year in a village; a sociologist write an ethnography of a school. But the anthropologist's work is to his or her subject of study does remain distinctive. It is the study of social arrangements, particularly in account the very social arrangements which are part of those technical systems. Household size, trading networks, division of labour - these comprise the form that problems takes. Thus allocating tasks by sex contributes to the differentiation of tasks that poses a technical problem for social management.

From different antecedents can be claimed from the social evolutionists, the melange of interest in the social ramifications of legal or political systems, and in the internal contradictions which propelled society from one stage to another. Distinctions were perceived between domains of social life, something which harks back to the constitutional philosophers of the Enlightenment. The legacy of these ideas persists in assumptions about the intractability of social arrangements. Social practices are regarded as autonomous in that they generate problems distinctive to themselves. The 'matrilineal puzzle' for instance, might be regarded as a specific form of a general organizational problem (any society has to calibrate residence and property ownership). But it is also taken as a problem in the strong sense: many matrilineal solutions promote contradictions which made the solutions apparently unstable. A problem is thus set up by conflicting demands from different domains of social life. This puzzle, now 35 years old, is still posed to first year students. It raises the obvious question: whose problems are these?

First, there is the disciplinary problem, demarcating an area of study. Anthropology's capture of 'culture' or 'social structure' or the 'ethnographic monograph' can be seen as strategic. But never as final. These concepts may define the subject at particular historical moments, but have not been immune from remorseless internal criticism when anthropologists try to use them as sources of authority.

First hand fieldwork defines the immediate ethnographic enterprise as understanding the specific social relations under study. In the ensuing communication of this understanding lie the problems of exegesis. For all the emphasis put on observation, what is observed is taken only as indirect information about people's relationships and ideas. The anthropologist incorporates their versions into his or her account, but does not replicate them. Description and analysis are inseparable.

One solution which is also a problem is to create discontinuities out of continuous experience - the divisions between 'economic' and 'political' life, say, which are connected or collapsed in terms of the relationships then demonstrated between them. Because of the importance of establishing some independent dimension to the primary 'data', the artificiality of such analytic categories regularly comes up for debate. This may take the form of showing that the divisions are illusory and the connections between domains of social life real. Concern with



In the third article in our anthropology series Marilyn Strathern examines the role of ideas of

Them and us . . .

connections replicates field experience in away, and anthropologists often refer to their studies as holistic. They claim to see the connections between politics, economics, religion, though no one supposes this means they can study the whole society. Indeed, even in the smallest community no fieldworker there only a year or two could possibly grasp the situation in its totality. In a large complex society the claim would seem even more absurd. But the metaphors of scale are illusory. Information is as complex as the methods by which it is extracted, and is never complete. Moreover, it is debatable whether a society is an isolable subject of study. Holism has thus come to mean the demonstration of interconnection, not simply to show that everything impinges on everything else, but to show specific relationships between institutions, values, variables.

There is a long-established dissonance from the view that connection implies integration. The crucial connection may be between dominant ideologies and lived experience, or the manner in which people's models of the world bypass one another. Such disjunctions may come to seem real, and common values illusory, as in the recent debates over men's and women's models of society. But a disjunction discovered in the data is a connection as far as the elucidation of the data is concerned, a type of relation, not the absence of relation.

These are all problems for the anthropologist. They arise in the relationship between fieldwork practice and writing up. Others, such as the status of generalizations drawn from specific instances, the relationship between particulars and universals, inhere in western scholarship as such. But social anthropology has not *invented* the specificity or intractability of social arrangements, any more than it has invented the fact that all existence is limited by the form it takes. It simply affirms that human behaviour cannot be studied apart from its embodiment in cultural and social practices. It has its own method of conveying this message.

This is the construction of debates from discoveries made in the field. Examinees are used to the topic-oriented elicitation of knowledge: they go through the topics of ceremonial exchange, reciprocal political systems, world religions, domestic mode of production, possession cults or ethnic boundaries, learning a technical vocabulary thereby. But the general significance of this topicalization cannot be overestimated for

these topics are not in the first place defined by theoretical problems.

Many topics of social inquiry in Britain are regarded as mutual problems for research worker and the local population - community life, class and race relations, divorce rates. But the anthropologist frequently finds him/herself making problems out of areas of life people themselves do not regard as such. One reason lies in how the outside observer classifies: what is the match between ceremonial exchange and market exchange? Are gifts 'money'? And comparison generates new problems: is the Indian gift the Melanesian gift? Such concerns can give anthropologists the appearance of being caught up in a world of their own, in debates for which their own vocabulary is a prerequisite. The situation is aggravated by studying more societies: each slightly different from the other. To refer to one old debate, who wants to know about the status of non-agnatic cognates in society?

There are, then, problems generated in the course of anthropological inquiry itself, not necessarily given in advance by theoretical issues nor necessarily considered as such by members of the society in question. But the presentational strategy of these topical problems are more than mental exercises; they signal the specificity of social systems. It is not in fact 'their' world in which anthropologists are caught up.

Thrown into relief thereby are what people do find problematic. The prevalence of wiles or the waywardness of men is treated seriously. That 'their' problems are not 'our' problems raises an important issue concerning the way people think about what they are and do.

People's representations of themselves are intrinsic to the problems generated by social life. The study of human social life cannot proceed without taking into account the manner in which that life is presented by those who live it. As anthropologists are fond of telling themselves, the actors' models of what is going on comprise part of the data to be investigated. There is more to agnates and cognates for instance than terminological debate. The anthropologist may be studying people who do not organize their lives according to the categories of social science (they are unwilling to have a concept of society for a start). But they have their own systems of thought, and here the subject has had a long involvement in comparative study. Anthropologists make it their specific business to be open to

the ideational and intellectual systems of other peoples.

Social anthropologists treat the manner in which people organize their own knowledge about themselves as an object of inquiry in its own right. This is made explicit in the relationship which anthropologists establish between their ideas and those under study. Distance can demonstrate any object of study from the subject-investigator. But over the last century anthropologists have made themselves specialists in investigating societies whose knowledge about themselves have little to do with the organization of scholarship in the western tradition to which social science belongs. The scope of sociological inquiry is widened to societies other than the one which westerners inhabit.

Although the primary impetus to this position came from encounters with exotic 'others', current opinion indicates that 'otherness' was always itself something of an artefact (defined by how the self was defined). The corollary seems to be that there are no (were never any) exotic others. Appreciation of otherness was in the first place an intellectual stance. Otherness is artificial in the sense of being a human device, not in the sense of being unreal.

The complaint of artifice often incorporates the equally common complaint, that anthropology makes things more complex than they need be. But it is an illusion that it is anthropology which makes social life complex; all they make more complex are the ways in which we think about it. Their puzzles are a form of social realism, an opportunity of standing back from western frameworks of knowledge.

There is a pragmatic dimension to this. Acknowledging the autonomy of other societies and other intellectual systems does not mean envisaging 'a society' as politically or culturally discrete. It does mean endorsing the principle that a significant feature of human social life is that social persons are not replicas of one another. They are divided by interests and ideologies. It follows that other ways of life can be intelligible without being taken as versions of one's own. Social anthropology in the 1980s has taken to heart one debate instigated when fieldwork began. This was about the relationship between the ethnographer and those he/she encounters in the field. Questions of personality, or of the cultural assumptions of the ethnographer, have been displaced by the issue of how the anthropologist is to regard the end-product of his/her investigations. Not only is the home audience socially heterogeneous, as feminist anthropology reminds us, but those whose society is studied are likely to form a crucial audience. Present experiments in genre attempt to realize these relationships in the end-product - the anthropologist no longer claims to be the sole author of his/her account.

One overview of recent anthropological theory suggests that the 1980s are characterized by an interest in practice. It turns out in fact that social anthropology's best substantiated generalizations are to be found in ethnographic practice. How anthropologists conduct their encounters with others embodies generally applicable propositions about social life. A focus on the foundations of social and cultural difference does not depend on the perilous status of the exotic. It depends on a general characteristic of all social life, which is that people have their own views about that life, and present themselves in specific ways.

The author is professor of social anthropology in the University of Manchester.

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BOOKS

The mystery of Labour's lost voters

by S. E. Finer

How Britain Votes
by Anthony Heath, Roger Jowell and John Curtice
Pergamon Press, £15.50 and £7.95
ISBN 0 08 031859 2 and 032647 1
British Democracy at the Crossroads: voting and party competition in the 1980s
by Patrick Dunleavy and Christopher T. Husbands
Allen & Unwin, £18.00 and £8.95
ISBN 0 04 324010 0 and 324011 9
The Decline of Class Voting in Britain: changes in the basis of electoral choice 1964-1983
by Mark N. Franklin
Clarendon Press: Oxford University Press, £30.00 and £8.95
ISBN 0 19 827475 0 and 827474 2

The electoral scene in this country has changed radically since 1964. Turnout has steadily declined, there are three parties and not two, the public discerns sharp differences between the two older parties, elections are fought on issues, the swing from one party to another is no longer uniform throughout the country but becomes less and less favourable to the Conservatives as one moves northward. The entire landscape has changed. These three books are attempts to explain the why and how of these changes. All go in search of Labour's lost legions. All conduct their search in two stages, first explicating the link between social structure and the vote, and then, if this only accounts for part of the phenomenon, turning to "political" causes.

In the old days it hardly seemed necessary to move on to the second stage since an excellent predictor of a

accepted that in 1974 when the Liberals secured some six million votes, this party largely served as a staging post. There was little hard-core Liberal strength and the support the party attracted was spread evenly over all social classes. But now, according to Heath and his colleagues the Alliance vote is more stable, it has a hard core, and a specific social class constituency. This in itself implies that it is not going to fade away, but Franklin goes much further. He argues that the influence of parental class and occupation has declined so much that the old parties have no social sheet-anchors to speak of: they are "little more than accidents", and they continue to dominate not because they are class or occupation based but because they

The three books also address another novelty - the phenomenon of a Labour-voting North and Conservative-voting South. Now this is in part explained by the prosperity and the social stratification of the South as compared with the North, but this is not the complete answer nor does it explain why the divide is getting deeper. As all the authors concur, a mysterious "neighbourhood" factor has entered, destroying what used to be uniform "swing" all over the country. For instance, electors who have otherwise identical social background characteristics will be more apt to vote Conservative if they live in a Conservative constituency or Labour in a Labour constituency. Nobody knows why. The authors attest the fact but the best explanations they can offer are mere surmises - they speculate about a "contagion" effect, due perhaps to talking over the garden fence or in the pub. But they don't know.

Thirdly, and most importantly, all

Theory and research

Qualitative Methodology and Sociology: describing the social world
by David Silverman
Gower, £16.50 and £6.95
ISBN 0 566 00884 X and 008874

The term "qualitative methodology" covers a broad field. When used by researchers it not only refers to research technique but also signals active consideration of the relationship between theory and research and data analysis. Yet it can be used as a term of abuse to refer to a so-called "soft" option in research methodology. Indeed, some undergraduate students could be forgiven for thinking that more than an acquaintance with William Foote Whyte's appendix to *Street Corner Society* and a knowledge of the advantages and disadvantages of participant observation, for this is what

some books have led them to believe. Such an approach has also raised problems for graduate students who think that "qualitative research" refers to situations where "anything goes". Certainly, David Silverman's book will help to dispel these myths and encourage students to think about the problems associated with qualitative work. Silverman sets out to examine some of the methodological issues concerned with the conduct of qualitative research and with data analysis. The book is divided into three parts. In part one Silverman focuses on the research process where he deals with conceptual as well as practical problems. Here he raises such issues as the use of theory, the relevance of a macro or micro perspective in sociological studies and the circumstances in which qualitative as well as quantitative methods can be used. Certainly, this chapter would be very useful for postgraduate thinking about starting research projects.

In the second and third parts of the book these issues are explored in greater detail. Part two entitled "Overcoming Conceptual Polarities" presents a range of theoretical issues at a rather rapid pace although there is a

useful chapter on macro and micro relations that provides a summary of the major issues in this debate. Part three examines the practice of qualitative research. Here the reader is given a taste of a range of research techniques that could be included in this approach: ethnography, conversation analysis and interview. In addition, there is also a discussion of simple counting techniques in qualitative work and a chapter on practical intervention.

The final section of this book again covers a broad field in too short a time. There is a very quick canter through ethnography where I found it was essential to bring in quite a bit of background knowledge to understand the discussion. Similarly, I suspect that those with expertise in conversational analysis will find Silverman's discussion all too brief.

A chapter that is particularly useful concerns the combination of quantitative and qualitative methods. Here, Silverman quite rightly criticizes sociology teachers when he states: "Many thousands of British sociology students have been encouraged to dismiss quantitative research. More seriously, a generation of young

men and then rejected. In the 1983 election the Conservatives led Labour on all major issues except unemployment - did they not - ? Well, if the election had been a matter of issues, Labour would have tied with the Conservatives. But hasn't the ideology of the electorate moved to the right? No, on the whole, it hasn't. Very well then - surely Labour suffered from a credibility gap? Not quite; the electorate did not doubt that if elected they were capable of carrying out their policies. What then? Well, they did display a certain lack of confidence in the Labour party. Why? No answer. Now all these findings are surprising in the light of opinion polls and other surveys and indeed they had no echo in the Dunleavy and Husbands survey or electoral attitudes. Still, they are supported by a formidable battery of survey evidence and sophisticated techniques, so for now I am prepared to be agnostic. What I must express however, is the sense of demoralization as one is led up the ladder of expectations, still searching, ever vainly, for the explanation for those blessed missing votes until - until what? Until we come to the end of the book!

It is like Peer Gynt peeling off the skin of a wild onion, intending to get to the kernel, he pulls off one skin, then another, then a whole batch and in the end all he is left with is a heap of onion skins. Well - so are we.

It would be most unjust, though, to end on this note. Vast patience, great ingenuity and resolute scholarship have gone into all these volumes and in their individual ways they all make rare contributions. Heath and his colleagues must be praised for their boldness in using an entirely new categorization of social classes. This dramatizes the changes in social structure and it also makes salient the very distinctive electoral attitudes of sectors

new phenomena, the Alliance vote, and the "neighbourhood" effect. Dunleavy and Husbands also innovate in their analysis of special sectors of the electorate notably those who are employed by or consume in the public as against the private sectors. Franklin's book is the most modest in scope - he tries simply to demonstrate that parental class and voters' occupation have remained as determinants of the vote leaving the two main parties strangely unanchored in social class. Its modesty is its strength. It is elegantly argued, and convincingly demonstrated. But neither his book nor the other two have solved what is now the central mystery of the elections of 1979 and 1983: the missing working class Labour vote. Maybe after all, it was because that there she-devil had all the best tunes?

S. E. Finer was formerly Gladstone professor of government at the University of Oxford.

BOOKS

After the blast

Pound/Lewis: the letters of Ezra Pound and Wyndham Lewis
edited by Timothy Materer
Faber, £25.00
ISBN 0 571 13623 0

Pound/Lewis charts the collaboration, and occasionally the confrontation, between two of the most abrasive personalities in 20th-century literature. Drawn together, after initial wariness, by the gradual realization of sharing similar aims, Ezra Pound and Wyndham Lewis gleefully cast themselves as agents provocateurs with a mission to shatter the complacent languor of bourgeois society. Disaffection remained the impetus for both their lives.

Their first conspiratorial enterprise was Futurism, plotted from the Rebel Art Centre in London and heralded by the strikingly provocative piece cover of their manifesto, *Blart*. Partly an act of intellectual terrorism, partly an attempt to transplant forcibly into English art the dynamic new vocabulary of Cubism, Futurism and German Expressionism, the impact of Futurism's explosive iconoclasm was soon to be overshadowed by a more devastating form of shell shock.

It is at this point that their correspondence begins, alternating between Pound's entrepreneurial activities as Lewis's literary and artistic agent (and the suddenly provocative piece cover of their manifesto, *Blart*). Partly an act of intellectual terrorism, partly an attempt to transplant forcibly into English art the dynamic new vocabulary of Cubism, Futurism and German Expressionism, the impact of Futurism's explosive iconoclasm was soon to be overshadowed by a more devastating form of shell shock.

Both soldier and non-combatant were radically changed by the war. Lewis withdrew into seclusion, and then Rapallo, turning to economic theory in an effort to expose the financiers' conspiracies which, he believed, lay behind the recent holocaust.

From about 1936 these economic obsessions displaced Pound's indefatigable efforts as a one-man artistic promotional organization. Convinced that monetary reform alone could forestall a second world war he undertook a self-appointed crusade to impress this upon an indifferent public. As his appeals fell on deaf ears, so his epistolary style changed. His desperate urgency resorts to a kind of

Parallels in poetry

Pope and Horace: studies in imitation
by Frank Stack
Cambridge University Press, £25.00
ISBN 0 521 26695 5

In 1733, when the *Essay on Man* was well under way, Alexander Pope turned his attention to the series of adaptations of Horace's satires, epistles and odes that many readers regard as his most distinctive achievement. Not only did he update Horace, rendering him relevant to contemporary events and personalities, but he also used Horace's poems as pre-texts to explore his own religious and moral views; and, as Frank Stack's valuable book demonstrates, his inner psychological states as well.

Pope was as innovative about publishing poetry as he was about writing it. Stack properly points out that he was the first "imitator" to print the Latin text on the opposite side of the page, thus inviting the reader to perceive not only an intellectual or verbal, but a graphic relationship between text and pre-text. Pope employs italics and capitals as visual cues and clues to help the reader decode his versions of Horace. Other critics have examined Pope's reliance on Horace, sometimes substituting Juvenal or Persius as the true models for the *Imitations*, but Stack is the first to respond to the "intertextual" dimension of Pope's project. Julia Kristeva has defined

intertextuality as a redistribution of anterior utterances in a new space, which covers the *Imitations* admirably, denying as it does any straightforward linear relationship between the two texts.

In a book that is a model of clarity, eschewing the armoury of footnotes that such a potentially scholarly subject might have employed, Stack demonstrates the fluid and flickering complexity of Pope's way of working on Horace. We do not merely recollect the original, but we re-read it through Pope's eyes. Horace himself becomes a different poet when we know the *Imitations*. To steady the vertiginous implications of this intertextual view, Stack shrewdly supplies two control mechanisms. He alludes throughout to the commentaries of André Dacier and of Shaftesbury, the former inclined to stress the moral and to some extent Christian implications of Horace, whereas the latter emphasizes the poet as a protector of the integrated self and of political freedom.

Arrestingly, Stack urges that, particularly in the late *Imitations*, Pope is struggling to emancipate himself from his eminent precursor, even to exorcise his influence. I was reminded of the playwright Edward Bond's remark about his adaptation of *King Lear*: "Lear was standing in my path and I had to get him out of the way". Pope's *Imitations* are at times a similarly ambiguous act of homage and Stack invokes Harold Bloom's theory of "anxiety of influence" to account for Pope's passionately intense response to Horace's Stoic certainties.

Oddly, however, intertextuality is both the strength and weakness of Stack's approach. It involves him in



Part of Wyndham Lewis's portrait of Stephen Spender, 1938, which is reproduced in *Edward Lucie-Smith's Art of the 1930s: the age of anxiety* (Weidenfeld & Nicolson, £25.00).

telegraphese (which after the war borders on incomprehensibility) as he rapidly flits from one allusive thought to another, with increasing privacy of reference. These disturbing signs of nervous strain and monomania are paralleled by absurdly simplistic analyses of political issues, often expressed in distasteful, antithetical juxtaposition. The book is a surprisingly little evidence of his own fascist tendencies of the 1930s, which he acknowledged in the 1930s, which he acknowledged in the 1930s, which he acknowledged in the 1930s.

Their correspondence resumes after the war with Pound incarcerated, having been judged medically unfit to stand trial for treason. This is the most moving phase of their relationship, held together by the fragile strand of shared memories. The prickly Lewis touchingly adopts an uncharacteristically gentle circumlocution, resorting sometimes to an eloquent silence when his instinctive rejoinder might prove hurtful. Pound's importunate need to

disseminate information has not left him, but he is once again pathetically duped, believing that he is assembling a worldwide network of disciples to promulgate the canonical economic texts rather than, with few exceptions, a circle of cranks and hangers-on. A lifetime of cultural provocation had left both largely bereft of public recognition. They ended as they had begun: outsiders defying the establishment which, with increasing regularity, they observed reward its chosen voice, T. S. Eliot, for his literary and cultural contributions. Careful attention to the flavour as well as the integrity of the letters has preserved their colourful orthography and exuberant layout. The result is a book which will fascinate scholar and general reader alike.

Alan Robinson

Dr Robinson is lecturer in English at the University of Lancaster.

intertextuality as a redistribution of anterior utterances in a new space, which covers the *Imitations* admirably, denying as it does any straightforward linear relationship between the two texts.

In a book that is a model of clarity, eschewing the armoury of footnotes that such a potentially scholarly subject might have employed, Stack demonstrates the fluid and flickering complexity of Pope's way of working on Horace. We do not merely recollect the original, but we re-read it through Pope's eyes. Horace himself becomes a different poet when we know the *Imitations*. To steady the vertiginous implications of this intertextual view, Stack shrewdly supplies two control mechanisms. He alludes throughout to the commentaries of André Dacier and of Shaftesbury, the former inclined to stress the moral and to some extent Christian implications of Horace, whereas the latter emphasizes the poet as a protector of the integrated self and of political freedom.

Arrestingly, Stack urges that, particularly in the late *Imitations*, Pope is struggling to emancipate himself from his eminent precursor, even to exorcise his influence. I was reminded of the playwright Edward Bond's remark about his adaptation of *King Lear*: "Lear was standing in my path and I had to get him out of the way". Pope's *Imitations* are at times a similarly ambiguous act of homage and Stack invokes Harold Bloom's theory of "anxiety of influence" to account for Pope's passionately intense response to Horace's Stoic certainties.

Oddly, however, intertextuality is both the strength and weakness of Stack's approach. It involves him in

A ritual dance of courtship

The Courtship of Robert Browning and Elizabeth Barrett
by Daniel Karlin
Clarendon Press: Oxford University Press, £12.95
ISBN 0 19 811728 0

"Winters", Elizabeth Barrett tells Browning in her first letter to him, "shut me up as they do dormouse's eyes". Her chronic invalidism, however, was about to meet a decisive challenge from the poet whose verse declares his pre-existing need to be "love's slave" to someone. Elizabeth filled the role, and they embarked upon a "story of patriarchy defied, of miraculous rejuvenation and romantic flight", the subject of Daniel Karlin's rewarding study. His source material comprises the 573 letters exchanged between the two principals.

The elopement of these mature poets has become the property of popular culture, and Karlin shows how the protagonists themselves crafted the mythical dimension of the relationship. The courtship unfolds as a "fiction": Browning, who lived by the imagination, "imagined Elizabeth Barrett". The letters show how "he composed" his approach - seduced, directed, written by, and starting himself. The imaginative resources of two creators conspire in an elaborate ritual dance of courtship. She, in her faded late 30s, plays upon her plight and emphasizes her frailty; he proclaims his worldliness, though, when it falls to win him admittance, he conjures up some ill-health of his own ("I have had a constant pain in the head for these two months").

Karlin's narrative is carried forward with colloquial enthusiasm and humour, and he closely analyses the

structure and psychological complexities of the letters. Elizabeth can be vivid and vigorous, even Dickensian, as when telling of "an immense feminine bandit" encountered when she paid ransom for her kidnapped dog. Browning's language should be read in terms of his poetics: "Language, in Browning's idea of creativity, is not a process of achievement of, or approximation to, 'meaning', but a process of necessary and inevitable failure - necessary, that is, if the meaning is to justify itself". Karlin's unduly involved way of putting it.

The love story is not without its dry humour. Elizabeth's procrastination over elopement causes Browning to communicate his neurotic anxiety to the dog Flush, who then bites him twice and, when the fight is finally in hand, Browning so muddles himself with rail and shipping timetables that on one day alone he sends three contradictory notes and in the end still gets the arrangements wrong. Browning over the story is Mr Barrett: "I was looking at Papa's face as I saw it through the floor", trembles Elizabeth at the age of 40. "Jupiter Tonans" (Zeus) is what she calls him, though Karlin questions the correspondents' depiction of him as a thoroughly selfish tyrant, however convenient (or even necessary) for their myth.

The entire communication between them is mediated by art and their shared self-consciousness about the form of their letters. But Karlin's sensitive guidance enables us to appreciate the poignancy of what Browning achieved for Elizabeth. In enabling her to escape from the imputed security of her sick room, and from the dependence upon letters as the ordinary medium of her social existence, Browning drew her from the shadows into the light. "I shudder to look back", she writes, movingly, to him in 1846. "My face was so close against the tombstones, that there seemed no room even for the tears".

Richard H. Taylor

Dr Taylor is director of Schiller International University, London.

Painting
MICHAEL PHILLIPSON
Goldsmith's College, University of London
Michael Phillipson is an active painter and teacher of both art and sociology. His book draws together artistic practice with the analytical practice he has developed over many years of sociological inquiry. He interprets the work of art as a site on which the other (the viewer/critic) is invited to share in the questioning celebration of painting itself.
07102 04809 £20.00

Semiotics and Legal Theory
BERNARD S. JACKSON
Professor of Law, University of Kent
Legal semiotics is a new discipline which has given rise to considerable interest among scholars especially in Britain, the United States, Continental Europe and South America. This study presents the first systematic analysis of the relationship between contemporary semiotic theory and modern jurisprudence.
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Authority in Language
A Study of Language Standardisation and Prescription
JAMES MILROY and LESLEY MILROY
University of Sheffield; University of Manchester
This exploration of the notions of 'correct' and 'incorrect' language looks at the problem from both an historical and a practical perspective. It examines ideas on language expressed by writers from Swift to Orwell, tracing them to present-day views on correctness.
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Race, Power and Resistance
CHRIS MULLARD
Director, Race Relations Policy and Practice Research Unit, University of London Institute of Education
Covers one of the most important periods in British, American and international race relations. It is a study of the historical, political, racial and social forces, challenges and resistances that led to the successful 'palace revolution' within the London-based Institute of Race Relations. Drawing on official letters and documents, and his own experiences as a black political and community activist, Chris Mullard describes the events of 1972 at the Institute.
07100 97743 £19.95

Routledge & Kegan Paul
14 Leicester Square London WC2

Brean S. Hammond

Dr Hammond is lecturer in English at the University of Liverpool.

BOOKS

Viruses unveiled

Pirates of the Cell: the story of viruses from molecule to microbe
by Andrew Scott
Blackwell, £12.50
ISBN 0 631 14046 8

Virology is a discipline which is less than a 100 years old, yet viruses have infected from the dawn of history a range of hosts numbering many billions, from the simple bacterial cell to fungi, plants, insects, animals and man. The origins of virology are from the observation of mottling of tobacco leaves caused by tobacco mosaic virus, human and veterinary medicine, and especially that activity known as hygiene on the continent of Europe and as bacteriology in Britain and the United States.

Human viruses engender in the mind perhaps the common cold, influenza, measles, chicken pox, rubella, hepatitis, and the more devastating infections which have plagued mankind for many centuries – such as smallpox (now eradicated), rabies, poliomyelitis, yellow fever; the more recently identified virus diseases such as Marburg disease (erroneously referred to as Green Monkey disease), Lassa fever, Ebola haemorrhagic infection; and the urgency imparted by the current epidemic of the acquired immune deficiency syndrome (AIDS). Viruses invade living cells and then exploit the normal complex metabolic

machinery of those cells for their own replication. Virus infections can kill quickly or develop into a persistent (chronic) infection; some infections may progress to malignant disease or pass harmlessly and unnoticed. Indeed, there are almost infinite variable phenomena of viral infections. In this fascinating book – which is supplemented by many excellent, clear and useful line diagrams, but surprisingly few electron micrographs – Andrew Scott describes the fundamental, theoretical and social aspects of human viruses. His theme is the progressive unveiling of the nature of viruses and the intricate involvement of genetics, protein chemistry, biophysics, molecular biology and medicine in the study of virology.

The first links between viruses and some forms of cancer were established only ten years after viruses were first defined in the 1890s, initially during work on chicken leukaemia. There is now compelling evidence that hepatitis B is the cause of up to 80 per cent of all human primary liver cancer, one of the ten most common tumours in the world; and there is evidence that immunization could prevent the carrier state of hepatitis B virus and that this would lead to a decrease in liver cancer. Epstein-Barr virus is associated with nasopharyngeal cancer in Africa and with nasopharyngeal cancer in south-east Asia. HTLV I causes a specific form of human leukaemia; and LAV/HTLV III is the cause of AIDS. Then there are the papillomaviruses, the link between cytomegalovirus and Kaposi's sarcoma, and the association between herpes simplex virus type 1 and cervical cancer; and there are many others.

The author then turns to the long crusade to control viral diseases. Two approaches have been used: first, prophylaxis with vaccines, which has had a major impact on public health by the prevention of poliomyelitis,

measles, rubella and rabies, and the global eradication of smallpox; and second, the search for antiviral drugs. Many different chemicals targeted at various stages of the life cycle of the virus are being studied. As Scott says, "the dawn of an antiviral era is approaching", since we now know enough about the molecular biology of viruses to employ specific drugs, without damaging healthy cells, or to stop viruses from entering cells or from becoming active within cells, or to make use of antibodies and the body's own antiviral products, the interferons.

Scott also highlights the many virological puzzles which remain: "slow viruses", the possible association with diabetes, multiple sclerosis, rheumatoid arthritis, the presenile dementias, and the unconventional viruses – the prions, viroids and viroplasmids. Finally, he claims that the most likely theory is that they have evolved from escaped cellular genetic material – "escaped genes" – using many different routes. This, however, is the stuff of science fiction, except that the author meticulously validates factual information with selected references from the world literature.

The title conveys a sense of an exciting adventure and non-specialists in all the various fields covered will not be disappointed. The book is a well-balanced source of information, written in a readable and entertaining style.

Arie Zuckerman

Arie Zuckerman is professor of microbiology in the University of London, and director of the department of medical microbiology at the London School of Hygiene and Tropical Medicine.

Harmonic content

Fourier Transforms in Physics
by D. C. Champney
Adam Hilger, £2.95
ISBN 0 85274 794 2

Students of the physical sciences first become acquainted with qualitative aspects of Fourier analysis at school, when they learn that the rich variety of tones produced by different musical instruments arises from differences in the harmonic content of the vibrations. The more formal statements that periodic functions of arbitrary wave-form can be expressed as the sums of infinite series of harmonic components known as Fourier series is not usually encountered until the first year at university.

Although the idea that a non-periodic function can be expressed as the sum of a continuous distribution of frequencies is less familiar, this can be illustrated by considering the vibrations of a tuning fork. If the vibrations are undamped, they can be described either as a harmonic function of time, or in terms of their amplitude at a single frequency; the time dependence of the oscillations is then simply the Fourier transform of the frequency distribution, or spectrum. If we consider the example with a little more realism, once the tuning fork has been struck the vibrations gradually die away due to damping by the surrounding air. The vibrations can no longer be described by a single frequency, and associated with their decay is a finite broadening in the linewidth of the vibrational spectrum. The linewidth is inversely proportional to the duration of the sound emitted, and once again the exact relationship is given by the Fourier transform.

Fourier series and Fourier transforms are important in all branches of science and engineering dealing with periodic functions – for example, in acoustics, optics, solid-state physics, electronics and communications, and experimental techniques such as nuclear magnetic resonance spectroscopy and Fourier transform infrared spectroscopy have been developed commercially. These techniques all rely heavily on the rapid numerical computation of Fourier transforms to convert measured time-response functions or interference patterns into more conventional spectra. The mathematical treatment of Fourier transforms is usually given in the second year at university; and applications are discussed in more specialized courses in the final year.

This book gives a short but succinct introduction to the mathematical theory of Fourier series, Fourier transforms, and their applications in physics, in a way which should be easily accessible to first-year or second-year physics undergraduates. Other students in the physical sciences or engineering may also find it useful. Although no previous knowledge of Fourier methods is assumed, readers are expected to be familiar with standard techniques of integration and to have some understanding of the use of complex numbers. Throughout the text, simple and informative examples are used to illustrate the application of new material soon after it is introduced; and the presentation of various topics ranging from basic mathematics to applications in physics is well organized.

The applications have been carefully selected to be well within the experience of students at this level. These include topics in electrical circuit theory, the diffraction of light by slits, and the application of Fourier methods to the uncertainty principle. Another attractive feature of the book is a chapter on numerical computation, including some practical guidance on programming and program listings in Basic for carrying out fast Fourier transforms on microcomputers.

This clearly-written book can be recommended without reservation. It should help students to achieve a good basic understanding of a subject which is not usually dealt with in more general textbooks and which often causes difficulties. It should also provide adequate preparation for more advanced work.

Molecular shapes

Symmetry and Structure
by S. F. A. Kettle
Wiley, £22.00 and £8.95
ISBN 0 471 90501 1 and 90705 7

Symmetry provides us with a fundamental and inclusive way of looking at molecular structure. Properly used, we can obtain a lot of useful results by doing very little work. At another level, it enables us to reduce problems quickly and elegantly to their essentials. For example, in the calculation of matrix elements to ascertain molecular shape, much of the problem is determined by symmetry, leaving a hard nut which can only be cracked by computation.

But symmetry is hard to do properly, the temptation among chemists being to skip over the details and produce "useful" results by means of unexplained recipes or rules of thumb. Indeed, a number of books adopt this over-simplified and often misleading method, I approached Kettle's book with some suspicion. But this turned out to be quite unfounded. The style is attractive and persuasive, Kettle developing the subject by means of many examples, in order of increasing complexity beginning with water, ethylene and diatomic molecules, and proceeding to benzene, pentamethylbenzene, and complex molecules. These last are Kettle's speciality.

Each case is studied in detail and general conclusions drawn. Kettle really applies himself to elucidating all sorts of detailed points, such as choice of orientation of axes, choice of phase of orbitals, and so on. These often worry students – frequently to the exclusion of the whole subject. Above all, there is a wealth of diagrams.

The text contains little mathematics, as this has been confined to appendices – a strategy that can often go wrong. In this particular case, however, there is good integration of qualitative arguments in the chapters, with frequent references to more details in an appendix.

Kettle's basic approach is not to try to predict a particular molecular shape, but to infer details of the electronic structure of a molecule in that shape. My main criticism is one of detail: the statement that a planar molecule lies in the *yz* plane contradicts the convention used by spectroscopists, who use the *xz* plane. In the case of water, this has the effect of interchanging the designation of the B_1 and B_2 irreducible representations. This is sure to confuse students for whom the C_{2v} group is almost always the first one to be encountered.

My second criticism is that Kettle confines himself almost completely to the molecular orbital model of electronic structure and says little about the valence bond approach, which in the case of ethylene, for example, leads to the same qualitative conclusions but without the use of combinations of orbitals which transform irreducibly under the group. It is important for students to realize that only the total wavefunction must conform to one irreducible representation or the other – and not necessarily the individual orbitals. In addition, the valence bond model gives a reasonable explanation of why π bonds are formed and why it is that π bonds are weaker than σ bonds.

These criticisms apart, Kettle has written a useful book which chemists, students and their teachers, will find enlightening.

Joseph Gerratt

Joseph Gerratt is lecturer in theoretical chemistry at the University of Bristol.

learn magnetic resonance spectroscopy and Fourier transform infrared spectroscopy have been developed commercially. These techniques all rely heavily on the rapid numerical computation of Fourier transforms to convert measured time-response functions or interference patterns into more conventional spectra. The mathematical treatment of Fourier transforms is usually given in the second year at university; and applications are discussed in more specialized courses in the final year.

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T. J. Parker

T. J. Parker is senior lecturer in physics at the College, University of London.

Appointments Publications

The Council for Educational Technology for the United Kingdom has invited Richard Fothergill to be director in succession to Geoffrey Hubbard.

Professor Jonathan Dunby of the University of Reading department of music has appointed the pianist Ronald Lumsden as honorary director of the school of music, which offers instrumental and vocal tuition to students of the university and to citizens of Reading and the surrounding community.

Mr Gordon Best, fellow in analytical methods and planning, has been appointed director of the King's Fund College. He succeeds Mr Tom Evans, who died earlier this year.

The new members of the SERC council are: Professor D. E. N. Davies, University College, London; Professor B. E. F. Fender, Keele University; Mr R. B. Horton, British Petroleum Co plc; Professor M. A. Jevons, St Andrews University; Dr C. Jordan, Oxford University; Professor D. H. Perkins, Oxford University; Dr C. H. Reece, ICI plc; Mr D. L. Slater, APL Co plc; Professor R. Wilson, University College, London.

The Royal Scottish Academy of Music and Drama has announced two scenic appointments. Dr Rita McAllister becomes head of the school of music, while Dr Peter Jones, currently lecturer at Aberdeen University and in 1984/5 a visiting professor at the University of Evansville, is to be head of the department of academic studies.

The Association of Commonwealth Universities has announced that Professor Wang Guangyu of the Australian National University has accepted its invitation to become its next vice-chancellor.

Peter Harrison has been appointed head of postgraduate studies at the Luban Centre for Movement and Dance.

YORK Lectureship: Dr A. J. Fisher (computer science); Dr Carol Meake (English and related literature – temporary, part-time); Dr John Wolfe (history); Paul Livesey (Chinese language and linguistics – temporary); Dr Richard Francis (philosophy); Dr Tim Kenyon (politics – temporary); Paul Sirk (politics – temporary).

SHEFFIELD CITY POLYTECHNIC Mrs M. Monteith, Ms G. Dyer and Miss S. Slater, £21,076 from Commission of European Communities (women into accountancy); Ms J. Burgoine, £11,943 from Equal Opportunities Commission (equal opportunities in local authorities); D. J. Hulme, £26,334 from SERC (field testing of a prototype vortex storm sewage overflow); P. W. Choyce, £18,805 from SERC (flooded asphalt containing lava modified bitumen); B. Waddington, £29,824 from SERC/Department of Trade and Industry (teaching company programme with Dave McKee Ltd); B. Waddington, £67,469 from SERC/Department of Trade and Industry (teaching company programme with Roberts and Bell and Carlisle Finishes); D. W. Clegg and K. Dodgson, £13,755 from SERC (synthesis of novel PESPDMs block copolymers); Mrs J. Kinderlerer, £46,265 from Ministry of Agriculture, Fisheries and Food (implications of fungi on the shellfish and safety of mussels); South Yorkshire Microsystems Centre, £39,400 from Department of Trade and Industry.

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SURREY Mr F. D. Miles, £15,896 from Fuar Overseas Ltd (combination of biomass and solar energy); Dr N. F. J. Jones, £24,415 from SERC (recirculation system between slat and wing and flap of a multi-element aircraft); Dr J. K. Keer, £9,489 from SERC (concrete repair materials); Professor B. C. Chen, £11,508 from SERC (mobile information system for ABC demonstrator project); Professor J. E. Gove, £36,324 from SERC (underlying science and service facility for electron spectroscopy); Dr G. Edwards, £51,024 from MoD (NMR imaging in oncology); Dr A. R. Adams, £25,574 from SERC (flexibility study for portable system for calibration of industrial robots); Dr A. D. Cawthra, £47,040 from SERC (design of structural adhesive joints); Dr R. A. Johns, Mr A. W. E. Henham, Dr P. Marshall, £9,075 from SERC (combination of alcohol fuel in spark assisted diesel engine); Dr C. Thompson, £13,170 from SERC (determination of the effect of human factors on the design of a water research centre (immunoassay of water pollutants); Mr

THE WOLFSON LITERARY PRIZE for history and biography has been won by Richard Davenport-Hines of the London School of Economics business history unit, for his study of the industrialist *Dudley Docker: The Life and Times of a Trade Warrior*, published earlier in the year by Cambridge University Press.

Events

The annual conference of World University Service (UK) will be held on December 18 and 19 at the University of Reading. This year's topic is Adult Education: Empowering the People. Details from WUS, 20 Compton Terrace, London N1 2UN, telephone 01 226 6747.

Open University viewing

Saturday December 14

10.00 *Caring for Older People*. Voluntary workers
10.15 *Technology foundation course*. Dome is what you make it (101) (prog 3)
10.30 *Small business production*. Dairy cattle. Farmhouse summing up (102) (prog 4)
10.45 *Biotechnology*. A problem of scale (103) (prog 5)
10.55 *Resource utilization*. Buy test, pay less (104) (prog 6)
11.00 *International marketing*. Outward bound (105) (prog 7)
11.15 *Open University*. Information programme for OU students
11.30 *Open Forum*. Information programme for OU students. (Preparing for associate studies)
11.45 *Technology foundation course*. Dome even more (106) (prog 8)

* Repeat programmes

Knight of the Iguana? Graham Harris has been collecting reptiles since 1979, starting with grass snakes and graduating on to more exotic specimens like those illustrated. Denis Lewis's photograph comes from the Newport Documentary Photography Survey, organized by Gwent College of Higher Education. Details, 0633 59984.

NOTICE BOARD

Honorary degrees

The University of Hull is to confer the honorary degree of doctor of laws on Sir Joshua Hassan (right), chief magistrate of Gibraltar. The ceremony will take place in Gibraltar on December 21. At the same time, 23 teachers who have passed

the part-time post-experience Bachelor of Arts in Education degree for qualified teachers in Gibraltar, taught by Hull staff, will be presented with their scrolls. The University of Bradford will award the honorary degree of doctor of engineering to Dr Brian Mervin, inventor of the Nelson process of extruding plastic necks, and Dr Tony Martinez, founder of electronics manufacturing company Microview.



Grants

SHEFFIELD CITY POLYTECHNIC Mrs M. Monteith, Ms G. Dyer and Miss S. Slater, £21,076 from Commission of European Communities (women into accountancy); Ms J. Burgoine, £11,943 from Equal Opportunities Commission (equal opportunities in local authorities); D. J. Hulme, £26,334 from SERC (field testing of a prototype vortex storm sewage overflow); P. W. Choyce, £18,805 from SERC (flooded asphalt containing lava modified bitumen); B. Waddington, £29,824 from SERC/Department of Trade and Industry (teaching company programme with Dave McKee Ltd); B. Waddington, £67,469 from SERC/Department of Trade and Industry (teaching company programme with Roberts and Bell and Carlisle Finishes); D. W. Clegg and K. Dodgson, £13,755 from SERC (synthesis of novel PESPDMs block copolymers); Mrs J. Kinderlerer, £46,265 from Ministry of Agriculture, Fisheries and Food (implications of fungi on the shellfish and safety of mussels); South Yorkshire Microsystems Centre, £39,400 from Department of Trade and Industry.

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Clever sensors

Intelligent Instrumentation: microprocessor applications
ISBN 0 13 468943 7 and 468828 7

Instrumentation engineers are required to be skilled in a broad range of activities, with the design and application of sensors and measurement systems playing a central role in their work. In recent years, however, increasing emphasis has been placed on the associated electronic circuits used to process signals and prepare measured data for display or control purposes.

The capability of silicon integrated circuit technology continues to increase – for example, circuits with two million minimum feature size and a packing density greater than 100,000 transistors per chip can now be routinely achieved. And, as many electronic circuit problems arising in measurement system design can be solved using silicon circuits which do not require a large proportion of available area on the typical silicon chip, it has become possible to build into a measurement system additional capability with a very small increase in cost.

A modern instrumentation engineer must decide at some early point in the design cycle of a product whether to use a general purpose, programmable component – for example, the microprocessor – or to use a custom-designed silicon circuit. However, although at the moment microprocessor-based design is used more, the increasing sophistication and wider availability – at low cost – of computer-aided design methods for silicon systems will lead to a much greater use of the custom design approach.

The microprocessor or custom-built silicon circuit can be used to implement features additional to the basic measurement requirement. A so-called "intelligent" instrument is formed, for example, when human intervention is not required to calibrate or interpret measured results, display results in a particular format, or automatically initiate control of further operations. Intelligent instrumentation has a minimum of conventional controls – for example, knobs and switches are replaced by touch panels and keyboards. Complicated instruments often have a screen display



Alchemical laboratory, after the painting by David Teniers the Younger (1610-1690), from the Dover paperback edition of Aaron J. Ihde's *The Development of Modern Chemistry* (Constable, £14.95)

play (for example, using a liquid crystal display) with illuminated areas controlled by a microcomputer which can be selectively chosen by an operator to program a measurement function; or to perform a sequence of functions. Although you might think that the association of the word "intelligent" with a machine offering such features is not appropriate, the description is widely used.

George Barney's book covers a wider range of topics than is implied either by its title or by its subtitle. With a few exceptions, it provides a complete survey of the range of knowledge required by a designer of instrumentation systems. Approximately 50 per cent of the book is devoted to a discussion of digital hardware, software and interface techniques; 20 per cent reviews (briefly) a wide range of standard sensors; and the remainder is divided between reports of case-studies from the author's own experience and a glossary of terms. A useful short section on units, standards and errors is also included.

However, as many measurement systems rely on the use of negative feedback, it is surprising to find very little mention of this in the book. Similarly, it is surprising that in the book, aiming to present a broad coverage of instrumentation there is no mention of the possibilities offered by the direct

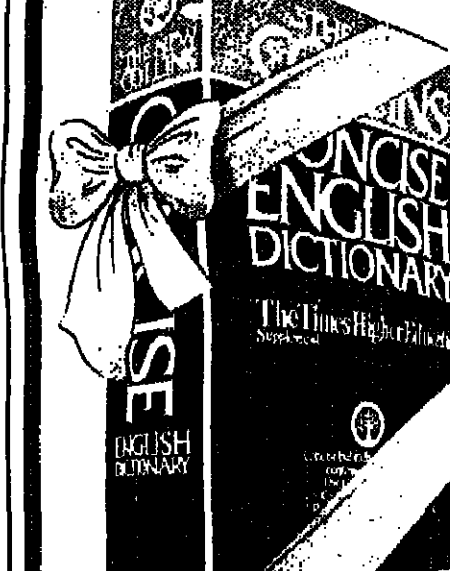
use of silicon circuit technology. Although this may be consistent with the book's subtitle, it is not consistent with an up-to-date interpretation of its main title.

Fourteen case-studies are discussed in 67 pages. Although this is a useful feature, it might have been improved had less case-studies been discussed in greater detail. For example, more space could have been given to the practical difficulties that might be expected when attempting to achieve a specified analogue accuracy over an industrial temperature range in the presence of 50 Hz and other electrical interfering signals. Indeed, a major part of the design task for most products is in practice directed towards ensuring the performance is maintained at the extremes of the environmental specification, for the product.

Barney's book can be recommended, particularly to MSc students converting from a non-engineering education in, for example, mathematics. Engineers who have become separated from the technical world by management duties should also find the book useful as a refresher.

J. R. Jordan

J. R. Jordan is senior lecturer in the department of electrical engineering at the University of Edinburgh.



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ACCOUNTING & FINANCIAL MANAGEMENT

Aston Management Centre

The Aston Management Centre, one of the UK's leading business schools, operates at postgraduate, post-experience and undergraduate levels, pursues a vigorous research programme and has a specially funded Doctoral Programme. The Finance & Accounting Subject Group, which is part of the Corporate Management Division headed by Professor E.W. Davis, provides a significant input into integrated degree programmes at both undergraduate and postgraduate levels. Specialist options are taught in Business Finance, Taxation and International Finance, as well as mainstream courses in Financial and Management Accounting. Contract research programmes cover the organisation of management accounting and currency risk management in UK companies.

LECTURESHIPS: Salary up to £15,520 p.a.

Qualified graduate accountants and/or financial managers with teaching and research backgrounds or relevant practical experience are sought for posts in the Accounting and Financial Management Division. The successful candidate will be required to teach and supervise students, and may be up to the maximum of the range £7,820-£15,520 per annum (presently under review). Ref. 724158.

SENIOR TEACHING FELLOW: Salary up to £18,415 p.a.

A qualified graduate accountant with either teaching and research background or relevant practical experience is sought to play an active role in teaching and to contribute towards course development in the Management Centre. Applicants interested in a part-time appointment would be welcome.

The appointment will be for a period of three years with the possibility of renewal. Salaries will be within the range £14,700 to £18,415 p.a. — pro-rata for a part-time appointment (presently under review). Ref. 725158.

Candidates wishing to discuss the appointments informally are welcome to telephone Professor E.W. Davis (Ext. 5024). Application forms and further particulars may be obtained from: The Personnel Officer

(Academic Staff), quoting appropriate Ref. No. Aston University, Aston Triangle, Birmingham B4 7ET. Tel: 021-359 3811 Ext. 4983. Closing date for the receipt of applications: 10th January, 1986.

ASTON UNIVERSITY

THE CITY UNIVERSITY

Dean of The Business School

The City University Business School is one of the leading UK Business Schools, with over 700 students at undergraduate and postgraduate levels. It includes the Centre for Banking and International Finance, the Centre for Business Systems Analysis and five Research Centres. The School is housed within the Barbican Centre and has a special role in serving the needs of the City of London.

The University is seeking to appoint a Dean of high ability who will lead the School's development towards increased autonomy within the University structure, building on its academic strengths and external links. The person appointed may have an academic, industrial, commercial or public service background. The initial appointment will be for a period of five years, renewable, and will normally be held in conjunction with a tenured professorship.

The salary will not be less than the professional average £21,235 (under review) plus £1297 London allowance. Application forms and further particulars may be obtained from the Academic Registrar's Office, The City University, Northampton Square, London EC1V 0HB. Telephone 01 253 4399 extension 3035. Closing date: 31 January 1986.

UNIVERSITY OF LEICESTER

VICE-CHANCELLOR

The University is seeking a successor to Mr. Maurice Shock who is resigning from the post of Vice-Chancellor of the University of Leicester in August 1987.

Recommendations and applications for the appointment would not be welcomed and the University will be pleased to provide further information to those who are interested in the appointment.

Communications should be addressed to:
Dr. K.W. Bowdler,
c/o The Registrar,
University of Leicester,
University Road,
Leicester, LE1 7RH.

Heriot-Watt University

READERSHIP IN ELECTRONIC ENGINEERING

Applications are invited for this full-time funded post in the Department of Electronic Engineering. The successful applicant will have an established record of research in the field of electronic engineering, and will be required to teach and supervise students. The Department has considerable resources in the application of digital systems. In addition, the Department is involved in radar related areas.

Further particulars and application forms are available from the Staff Officer, Heriot-Watt University, Edinburgh EH1 1JX (please quote ref. 724158). Tel: 011 551 1111.

Heriot-Watt University

Department of Accountancy

LECTURESHIP

Applications are invited for a post of Lecturer in the Department of Accountancy. The successful applicant will have an established record of research in the field of accountancy, and will be required to teach and supervise students. The Department has considerable resources in the application of digital systems. In addition, the Department is involved in radar related areas.

Schlumberger Chair of Engineering Software at Imperial College of Science and Technology

The Senate invite applications for the Schlumberger Chair of Engineering Software in the Department of Computing at Imperial College of Science and Technology.

Candidates should preferably have a background in technology and be able to identify, interpret and develop emerging research achievements in computer science into usable tools for technological industry and to support the efforts of various Departments of Engineering to make these developments available for their students. They should have significant research achievements and, preferably, appreciable industrial experience as well as an interest in teaching advanced undergraduate and postgraduate courses.

Applications (10 copies) must be received not later than 31 January 1986 by the Teachers' Section (THES), University of London, Malet Street, London WC1E 7HU, from whom further particulars should first be obtained.

Universities continued

University College of Swansea

Lectureships in Department of Management Science & Statistics

Up to six lectureships (£7,818 - £15,522) available
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Corporate Planning Commercial D.P.	Expert Systems Fuzzy Sets	A.P.L. Software Engineering
Decision Support Systems Information & Communication	Discrete Modelling Marketing	Decision Theory I.K.B.S.
Computer Languages Business Micros	Foreign Languages Systems Analysis	Office Automation France

Further particulars and application forms (2 copies) from Personnel Office, University College of Swansea, Singleton Park, Swansea SA2 8PP.

Closing date: 31st January 1986

(74978)

THE UNIVERSITY OF SHEFFIELD

CHAIR IN COMPUTER SCIENCE

Applications are invited from men and women for a Chair in the Department of Computer Science, tenable as soon as possible from a date to be arranged. Applicants should have qualifications of an equivalent level to a first class honours degree in Computer Science, and offer experience in a field which links strongly to another major theme in software engineering or information technology. Salary on the range for professorial appointments. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

(74978)

University of Liverpool

JAMES AND CONSTANCE ALSOP CHAIR OF MUSIC

Applications are invited for the James and Constance Alsop Chair of Music, which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Music. The Chair is tenable for life. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

(74978)

University of Bradford

ADMINISTRATIVE ASSISTANT (PERSONNEL)

Applications are invited from graduates or holders of an equivalent level to a first class honours degree in Personnel Management, or a related field, for the post of Administrative Assistant in the Personnel Office. The duties will be primarily concerned with the recruitment and selection of staff, and the management of personnel records. The successful candidate will be required to contribute to the development of the Personnel Office. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

(74978)

Southampton THE UNIVERSITY

Lucas Chair of Aerospace Systems Engineering

Applications are invited for the Lucas Chair of Aerospace Systems Engineering, which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Aerospace Engineering. The Chair is tenable for life. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

(74978)

University of Durham

SCHOOL OF EDUCATION

LECTURESHIP IN EARLY CHILDHOOD EDUCATION

Applications are invited for the post of Lecturer in Early Childhood Education, which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the School of Education. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

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(74978)

University of Oxford

Department of Engineering Science

LECTURESHIP IN MECHANICAL ENGINEERING

Applications are invited for the post of Lecturer in Mechanical Engineering, which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Engineering Science. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

(74978)

University of Oxford

Department of Engineering Science

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Applications are invited for the post of Lecturer in Mechanical Engineering, which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Engineering Science. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

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University of Oxford

Department of Engineering Science

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Applications are invited for the post of Lecturer in Mechanical Engineering, which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Engineering Science. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

(74978)



Applications are invited for the following posts for which applications close on the date shown. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Engineering Science. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

(74978)

The University of Melbourne

ROBERT WALLACE CHAIR OF ENGLISH

Applications are invited for the Robert Wallace Chair of English, which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of English. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

(74978)

The University of Melbourne

LECTURER (LIMITED TENURE) DEPARTMENT OF FINE ARTS

Applications are invited for the post of Lecturer in Fine Arts, which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Fine Arts. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

(74978)

The University of New South Wales

CHAIR OF ENGLISH

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(74978)

The University of New South Wales

DEPARTMENT OF HUMAN MOVEMENT AND RECREATION STUDIES

Applications are invited for the post of Lecturer in Human Movement and Recreation Studies, which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Human Movement and Recreation Studies. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

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(74978)

CHAIR OF PHILOSOPHY

Applications are invited for the Chair of Philosophy, which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Philosophy. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

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The University of Melbourne

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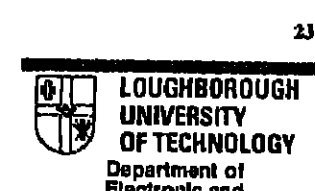
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(74978)



Research Fellow and Research Assistant

Two posts have been created on a voluntary basis in the Department of Electronic and Electrical Engineering. The posts are for a Research Fellow and a Research Assistant. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Electronic and Electrical Engineering. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

(74978)

The University of Loughborough

Senior Lecturer in Education (Rural Education)

Applications are invited for the post of Senior Lecturer in Education (Rural Education), which will be vacant in the autumn of 1986. The successful candidate will be required to teach and supervise students, and will be expected to contribute to the development of the Department of Education. Further particulars may be obtained from the Deputy Secretary, University of Bradford, West Yorkshire BD7 1DP to whom applications, naming three referees, should be sent by 27th January 1986 quoting ref. A.A.P. R342/D1.

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(74978)

Universities continued

THE CITY UNIVERSITY

Head of the Graduate Centre for Journalism

The post arises consequent on the untimely death of Professor John Dodge. The Centre is a major point of growth, and has strong support from the industry and the media. It offers postgraduate courses in newspaper, periodical, radio and international journalism, with high quality entry of over one hundred students, and an active research group. Vocational links are particularly strong.

The University is seeking a person of high ability to lead the development of the Centre, building on its academic strengths and external connections. The background may be academic or professional. The initial appointment will be for a period of five years, with salary on the professional range, minimum £18,070 (under review) plus £1297 London allowance.

Application form and further particulars may be obtained from the Academic Registrar's Office, The City University, Northampton Square, London EC1V 0HB. Telephone 01 253 4399 extension 3035. Closing date: 31 January 1986.

THE UNIVERSITY OF THE WEST INDIES
St. Augustine, Trinidad

Applications are invited for the following vacancies:

Senior Lecturer/Lecturer in Educational Administration
funded to \$17.87 at present. Postgraduate qualifications, University College teaching experience and/or administrative experience in a school system desirable.

Senior Lecturer/Lecturer in Obstetrics and Gynaecology

Lecturer/Assistant Lecturer in Neonatal Medicine

Lecturer/Assistant Lecturer in the Department of Economics
Salary Scales 1984/85: Non-Medical - TT\$69,180 x 1,908-86,352 (bar) x 1,908-90,168; Lecturer - TT\$54,708 x 1,908-66,156 (bar) x 1,908-77,804; Assistant Lecturer - TT\$45,480 x 1,908-49,286. MEDICAL - Senior Lecturer: TT\$84,084 x 1,908-91,716 x 2028-101,858; Lecturer: TT\$65,412 x 1,908-73,004 (bar) x 1,908-82,584. Unfurnished accommodation if available at 10% or furnished at 12% of housing allowance of 20% of pensionable salary. Up to five full economy passages on appointment and on normal termination. Study and Travel Grant. Detailed applications giving qualifications and experience and names and addresses of three referees to the Campus Registrar, University of the West Indies, St. Augustine, Trinidad, W.I. Details of posts sent to all applicants, but also available from the Secretary General, Association of Commonwealth Universities (Appis), 36 Gordon Square, London WC1H 0PF (70795)

THE CITY UNIVERSITY

DEPARTMENT OF CIVIL ENGINEERING
Chair in Hydraulics

The Department of Civil Engineering, with over 300 students, is one of the major UK departments. There are close links with industry and the profession, notably through the sandwich course scheme. The Department is active in research and the appointment of a Professor in Hydraulics is intended to complement existing research strengths. There are excellent experimental facilities for both teaching and research in the subject. Applicants, who may have an academic or professional background, should be capable of leading research and developing industrial links. The person appointed will have the opportunity of being considered for Headship of the Department. The post is tenured and appointment will be made from 1 October 1986.

Salary on the professional range, minimum £18,070 (under review) plus £1297 London allowance.

Application forms and further particulars may be obtained from the Academic Registrar's Office, The City University, Northampton Square, London EC1V 0HB. Telephone 01 253 4399 extension 3035. Closing date: 31 January 1986.



Department of Computer Studies

The Department has a vacancy for a Temporary Programme Manager to work on a project investigating the automatic grading of programming exercises. Applicants should have a degree or equivalent qualification, and at least one year's programming experience with micro or mini computers. Fluency in Pascal is essential, and familiarity with Unix and/or PC-DOS would be an advantage.

The post is available immediately and will be for a period of two years. Salary on Scale 1B for a related staff between £6000 and £8200 (under review) depending on age and experience. Further details may be obtained from Mr. D.W. Powell, Staffing Department, University of Southampton, Southampton SO9 5NH to whom applications (4 copies from U.K. applicants) should be sent not later than 20th January 1986, quoting reference - 7127/A.

The University of the South Pacific
Suva, FijiAPPLIED STATISTICIAN
(POST 86/631)

Applications are invited for the above position which is located in the Institute of Research, Extension and Training in Agriculture (IRETA) at the Alifan Campus of the University in Western Samoa. The post is research, extension and training activities, but some teaching duties may be involved. Duties include: conducting research in the area of statistics; advising on the use of statistics in the university; and undertaking the analysis of experimental data for the regional, national and international community. The successful candidate will be expected to contribute to the development of the Institute in experimental design and analysis, to supervise students, and to undertake research in the field of statistics.

Applicants should possess a minimum of a BSc in statistics, computer or statistics, and postgraduate qualifications or experience in the field of statistics would be desirable.

Salary will be in accordance with qualifications and experience. The post is for a period of two years, renewable. The successful candidate will be expected to contribute to the development of the Institute in experimental design and analysis, to supervise students, and to undertake research in the field of statistics.

Candidates should send three copies of their curriculum vitae, including a list of references, to the Secretary General, Association of Commonwealth Universities (Appis), 36 Gordon Square, London WC1H 0PF. (70795)

University of Otago
Dunedin, New Zealand

LECTURER OR SENIOR LECTURER IN LAW

Applications are invited for the position of Lecturer or Senior Lecturer in Law at the University of Otago. The law is similar to the law of England, with certain differences. The successful candidate will be expected to contribute to the development of the law school, to supervise students, and to undertake research in the field of law.

Salary: Lecturer - NZ\$28,000 - \$35,000 per annum; Senior Lecturer - NZ\$37,000 - \$47,000 per annum.

The appointee will have the right of private practice as a barrister, subject to the control of the University Council.

Prospective applicants are invited to write for further information, available from the Secretary General, Association of Commonwealth Universities (Appis), 36 Gordon Square, London WC1H 0PF. (70795)

Application forms and further particulars may be obtained from the Academic Registrar's Office, The City University, Northampton Square, London EC1V 0HB. Telephone 01 253 4399 extension 3035. Closing date: 31 January 1986.

Massey University
Palmerston North, New Zealand

LECTURESHIP IN SOCIAL POLICY AND SOCIAL WORK

Applications are sought from suitably qualified persons for a new lectureship in social policy and social work. The appointee will be attached to the School of Social Work, which is responsible for a four year Bachelor of Social Work degree, a Certificate in Social Service Supervision, and a Diploma in Welfare Administration. A graduate programme, which includes the MSW degree, is also being developed. The appointee will be expected to contribute to the overall teaching and research programme in the School of Social Work. The successful applicant will also be expected to develop an area of expertise based on their previous academic and professional experience. Preference will be given to candidates with qualifications and teaching experience in social policy and social work.

Salary: NZ\$28,000 - NZ\$35,000 p.a.

Conditions of appointment are available from the Secretary General, Association of Commonwealth Universities (Appis), 36 Gordon Square, London WC1H 0PF. (70795)

University of Durham

TEMPORARY LECTURESHIP IN SOCIAL ANTHROPOLOGY

Applications are invited for a Temporary Lectureship in Social Anthropology in the Department of Anthropology, arising from the vacancy of a British Academy Research Fellowship held by Dr M. Carr-Saunders. The successful candidate will be expected to contribute to the development of the Department, to supervise students, and to undertake research in the field of social anthropology.

The appointment is for a period of two years, renewable. The successful candidate will be expected to contribute to the development of the Department, to supervise students, and to undertake research in the field of social anthropology.

Further particulars may be obtained from the Registrar and Secretary, University of Durham, Old Elvet, Durham, Durham DH1 1TA. (70795)

University of Oxford

Lady Margaret Hall

TUTORIAL FELLOWSHIP IN JURISPRUDENCE

Applications are invited for a Tutorial Fellowship in Jurisprudence, to be held in conjunction with the University of Oxford, from 1st October 1986.

Further particulars may be obtained from the Registrar and Secretary, University of Oxford, 10 Wellington Square, Oxford OX1 2JG. (70795)

University of Wales

Prifysgol Cymru

UNIVERSITY FELLOWSHIPS

Applications are invited for a limited number of University Fellowships, available at the following constituent institutions:

The University College of Wales, Aberystwyth.

The University College of North Wales, Bangor.

University College, Cardiff.

The University College of Swansea.

UNIST (Cardiff).

The Fellowships are tenable for two years from 1 October 1986, and are open to graduates of any University. Candidates must possess a research degree.

The stipend will normally be £2,980 (first year) rising to £3,180 (second year). This is at present under review.

Applicants may obtain forms from the Registrar and Secretary, University of Wales, 10 Wellington Square, Oxford OX1 2JG. (70795)

Polytechnics

LANCASHIRE POLYTECHNIC at PRESTON
Faculty of Technology

School of Electrical and Electronic Engineering

Reader/Principal Lecturer in Electronic Engineering (Ref. AA/321)

Senior Lecturer or Lecturer II in Electronic Engineering (3 Posts)

Ref: AA/322

School of Computing

Principal Lecturer (2 Posts) Ref: AA/323

(2 Posts, one of which is a one year fixed term contract)

School of Mechanical and Production Engineering

Senior Lecturer or Lecturer II in Mechanical Engineering Ref: AA/325

A research interest in tribology would be advantageous, but not essential.

Senior Lecturer or Lecturer II in Manufacturing Technology Ref: AA/326

Senior Teaching Company Assistant (Two year fixed term contract)

The Polytechnic has recently gained approval to develop a new degree course in Information Technology. Candidates with interests in the enabling technologies and their applications will be particularly welcomed for some of the above posts.

Salary Scales: Reader/Principal Lecturer: £13,749 to £15,309 (Bar) to £17,289

Senior Lecturer: £11,733 to £13,785 (Bar) to £14,783

Lecturer II: £7,926 to £12,705

Application forms and further details obtainable from the Personnel Office, Lancashire Polytechnic, Preston PR1 2TQ. Tel: (0772) 26207

Closing date: 31st January, 1986

(74997)

LANCASHIRE POLYTECHNIC at PRESTON

Fellowships

University of Wales

Prifysgol Cymru

UNIVERSITY FELLOWSHIPS

Applications are invited for a limited number of University Fellowships, available at the following constituent institutions:

The University College of Wales, Aberystwyth.

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UNIST (Cardiff).

The Fellowships are tenable for two years from 1 October 1986, and are open to graduates of any University. Candidates must possess a research degree.

The stipend will normally be £2,980 (first year) rising to £3,180 (second year). This is at present under review.

Applicants may obtain forms from the Registrar and Secretary, University of Wales, 10 Wellington Square, Oxford OX1 2JG. (70795)

Further details from: The Personnel Department, Robert Gordon's Institute of Technology, Schoolhill, ABERDEEN, AB9 1FR. Tel: (0224) 633611 (Ext. 249).

(74997)

URGIT

SCHOOL OF CHEMISTRY INORGANIC CHEMIST

required to lecture to sub-degrees, degree and honours degree levels. Applicants should possess a higher degree and have a current research programme. The successful candidate will be expected to contribute to lecturing in the following areas:

General Inorganic Chemistry
Radiochemistry
Environmental Chemistry

Consultancy work may be undertaken. Salary scale £6,688 - £13,716 per annum (under review). Assistance with removal expenses.

Further details from: The Personnel Department, Robert Gordon's Institute of Technology, Schoolhill, ABERDEEN, AB9 1FR. Tel: (0224) 633611 (Ext. 249).

Polytechnics continued

KINGSTON POLYTECHNIC

FACULTY OF ENGINEERING

AEROSPACE ENGINEERING LECTURESHIPS

The School of Mechanical, Aeronautical and Production Engineering requires additional staff to support its expanding Teaching, Research and Collaborative Industrial activities in the area of Aerospace Engineering.

Applications are invited for the following posts:-

1 SL/PL in AEROSPACE ENGINEERING

Initially to take responsibility for the Course Leadership of the BEng (Hons) Aerospace Engineering Degree

2 SL in AEROSPACE DESIGN

with experience of and/or interest in Computer Aided Engineering Applications

3 SL in STRESS/STRUCTURAL ANALYSIS

with specific experience in the application of Finite Element Methods

For posts 1 and 2, applicants should have a good degree in Aeronautical Engineering, preferably with a postgraduate qualification and experience in the Aerospace industry.

For post 3, preference will be given to candidates with the above qualifications and experience in Aerospace Engineering, but applications will be considered from candidates with similar qualifications and experience in Mechanical/Manufacturing Engineering.

The successful candidates will be expected to contribute to the teaching of the School and its research work, or develop their own research programmes, and to interact closely with industry. Consultancy work is encouraged.

Salary:- Principal Lecturer £14,427-£17,967

Senior Lecturer £12,411-£15,441

Application forms and further details from Personnel Office, Kingston Polytechnic, Penrhyn Road, Kingston upon Thames KT1 2EE. Tel: 01-549 1366 ext 205.

Closing date 31st January 1986.

(70798)

Leicester Polytechnic

Director Designate

The Governing Body invites applications for the above post vacant from 1st September 1986. The present Director will retire on 31st August 1987 and the person appointed will be appointed Director from 1st September 1987.

Candidates should have appropriate academic qualifications and management experience in higher education/research/industry/commerce/professions in order to lead a large highly successful institution into the 1990s.

Salary: Group 12 Institution.

Particulars etc. from: The Secretary and Clerk to the Governing Body, P.O. Box 143, Leicester LE1 9BH.

Closing date for receipt of application forms: 31st December 1985.

EQUAL OPPORTUNITIES POLICY: Applications are welcome from suitably qualified and/or experienced people regardless of race, ethnic origin, religion, sex, marital status or disability.

The Polytechnic Wolverhampton

LECTURER II SENIOR LECTURER IN YOUTH AND COMMUNITY WORK

Applications are invited from persons with appropriate academic and professional qualifications and recent active fieldwork experience in youth and community work or related fields. The successful applicant will share with other staff responsibility for teaching the principles and practice of youth and community work. Applications from black women are positively encouraged.

Applicants should have a degree in a natural resources subject, a teaching qualification and a higher degree in an appropriate specialisation such as management or planning would be an advantage. Overseas experience is preferred but not essential.

Applicants must have initiative and be highly motivated, particularly as the Unit is self-financing and they will be expected to work for short periods overseas without supervision.

For further details and application forms contact: The Personnel Office, The Polytechnic, Wolverhampton WV1 1BB. Tel: Wolverhampton 241188. (70799)

Manchester Polytechnic

LECTURER II IN YOUTH AND COMMUNITY WORK

Applications are invited from persons with appropriate academic and professional qualifications and recent active fieldwork experience in youth and community work or related fields. The successful applicant will share with other staff responsibility for teaching the principles and practice of youth and community work. Applications from black women are positively encouraged.

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For further details and application forms contact: The Personnel Office, The Polytechnic, Wolverhampton WV1 1BB. Tel: Wolverhampton 241188. (70799)

Thames Polytechnic

Avery Hill College

School of Materials Science and Physics

TWO LECTURERS

Applications are invited from persons with appropriate academic and professional qualifications and recent active fieldwork experience in materials science or related disciplines. The successful applicant will share with other staff responsibility for teaching the principles and practice of materials science and physics. Applications from black women are positively encouraged.

Applicants should have a degree in a natural resources subject, a teaching qualification and a higher degree in an appropriate specialisation such as management or planning would be an advantage. Overseas experience is preferred but not essential.

Applicants must have initiative and be highly motivated, particularly as the Unit is self-financing and they will be expected to work for short periods overseas without supervision.

For further details and application forms contact: The Personnel Office, The Polytechnic, Wolverhampton WV1 1BB. Tel: Wolverhampton 241188. (70799)

Manchester Polytechnic

LECTURER II SENIOR LECTURER IN SCIENTIFIC AND ENGINEERING SOFTWARE

Applicants should have a background in numerical methods (preferably including finite element methods) and experience of software development in a scientific or engineering context. The successful applicant will share with other staff responsibility for teaching the principles and practice of scientific and engineering software. Applications from black women are positively encouraged.

Applicants should have a degree in a natural resources subject, a teaching qualification and a higher degree in an appropriate specialisation such as management or planning would be an advantage. Overseas experience is preferred but not essential.

Applicants must have initiative and be highly motivated, particularly as the Unit is self-financing and they will be expected to work for short periods overseas without supervision.

For further details and application forms contact: The Personnel Office, The Polytechnic, Wolverhampton WV1 1BB. Tel: Wolverhampton 241188. (70799)

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For further details and application forms contact: The Personnel Office, The Polytechnic, Wolverhampton WV1 1BB. Tel: Wolverhampton 241188. (70799)

Manchester Polytechnic

LECTURER II SENIOR LECTURER IN SCIENTIFIC AND ENGINEERING SOFTWARE

HONG KONG BAPTIST COLLEGE
Faculty of Business

Hong Kong Baptist College is a public institution of higher learning fully-funded by the Hong Kong Government. It is currently offering 3-year, post-advanced level Honours Diploma courses and expects to offer the Bachelor of Business Administration degree in 1987. Major redevelopment and expansion of the campus has begun and will continue for several years. Applications are now invited for the following posts tenable in September 1986 or earlier if the successful candidates are available:

1. SENIOR LECTURER IN ACCOUNTING

Candidates should have high academic and/or professional qualifications, together with substantial teaching/research or professional experience. Competence to teach in one or more of the following areas is required: Auditing, Accounting Theory, Financial Accounting and the Regulatory Framework of Accounting.

2. SENIOR LECTURER IN BUSINESS MANAGEMENT

Candidates should have high academic qualifications and substantial experience of teaching and research at the tertiary level. Practical business experience would be an advantage. Competence to teach in either Corporate Strategy or Organisational Behaviour is required.

3. SENIOR LECTURER IN COMBINED MANAGEMENT STUDIES

This is a new post to be based in the Economics Department. It will involve particular responsibility for research and teaching in Business and Industrial Economics in the context of the Combined Management Studies programme. Candidates should have high academic qualifications, substantial academic and/or business experience, and a strong interest in developing interdisciplinary work relating economics to other relevant disciplines.

TERMS OF APPOINTMENT

Salary: HK\$208,920 to HK\$270,720 p.a. by 6 increments (approx. £18,324 to £23,740 p.a. at the rate of 1:11.4)

Overseas candidates are usually considered for a basic salary earned over an eight month period. Benefits will be paid. Benefits include leave, medical and dental benefits for appointee and family, children's education allowance, housing assistance and passages.

APPLICATION PROCEDURE

Applications with complete curriculum vitae and the names and addresses of two referees should reach the Personnel Office, Hong Kong Baptist College, 224 Waterloo Road, Kowloon, Hong Kong by January 5, 1986.

(74998)

LEEDS POLYTECHNIC
Brunswick School of the Environment

PRINCIPAL LECTURER IN ARCHITECTURE

Colleges and Institutes of Higher Education continued

(Faculty of Art & Design) Lecturer II/ Senior Lecturer in Graphic Design

Preference will be given to applicants who offer expertise in the area of new technology and electronically generated imagery.

Salary scale: £8,076-£15,045

Application forms and further particulars from Staffing Officer, Derbyshire College of Higher Education, Kedleston Road, Derby DE3 1GB, telephone Derby 47181, extension 8.

DERBYSHIRE County Council

DEPARTMENT OF BUSINESS AND MANAGEMENT STUDIES Lecturer II/Senior Lecturer in Law

Salary Scales: Lecturer Grade II - £7,926 - £12,705
Senior Lecturer - £11,733 - £14,763

Applications are invited for the above post from people with appropriate academic and professional qualifications. The person appointed will contribute to the teaching of law across a wide range of courses in business studies and management. Recent business or professional experience will be a distinct advantage.

Further details and an application form may be obtained from the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

West London Institute of Higher Education Department of Creative & Performing Arts SENIOR LECTURER IN DRAMA

Applications are invited for the above post from people with appropriate academic and professional qualifications. The person appointed will contribute to the teaching of drama across a wide range of courses in business studies and management. Recent business or professional experience will be a distinct advantage.

Salary scale: £11,733 - £14,763

Application forms and further details from the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

Research and Studentships

University of Liverpool Department of Geography

Applications are invited for the post of

RESEARCH ASSISTANT

In the Department of Geography, the post is available for one year in the first instance and will involve working on the Caribbean Population Mobility Project. The successful candidate will be responsible for research, data collection, and statistical analysis.

Initial salary within the range £6,000 - £7,500 per annum (under review).

Applications together with the names of three referees should be received not later than 24 January 1986 by the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

Quote ref: RV335/7785, (19160)

Field Studies

SPRINGHEAD TRUST A well-known residential study centre in the Cotswolds, offering a wide range of field studies courses. The trust is currently seeking applications for its 1986 courses. The courses are designed to provide students with a practical understanding of the natural world and its relationship to human society.

For further details and an application form, please contact the Springhead Trust, 100, The Quadrant, Oxford OX1 1JF. Tel: 01865 274111.

Holidays and Accommodation

DRICOLL HOUSE HOTEL Single rooms, £60 per week. Double rooms, £80 per week. Full board. Tel: 01753 811555.

The University of Leeds Department of Genetics

POSTDOCTORAL RESEARCH FELLOW

Applications are invited for the above post for work on the integration of heterologous DNA into plasmids. The successful candidate will be responsible for research, data collection, and statistical analysis.

A good honours degree and a PhD in a relevant field are essential. Applications should be sent to the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

Post available from 1 April 1986 for a fixed period of up to two years.

Salary within the range £7,000 - £9,000 per annum (under review).

Applications together with the names of three referees should be received not later than 24 January 1986 by the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

Quote ref: RV335/7785, (19160)

University of Essex Department of Language and Linguistics

SENIOR RESEARCH OFFICER/ RESEARCH OFFICERS

Applications are invited for three posts of Senior Research Officer/Research Officer on the Essex Research Project. The successful candidate will be responsible for research, data collection, and statistical analysis.

The salary will be in the range £7,500 - £12,000 per annum (under review).

Applications together with the names of three referees should be received not later than 24 January 1986 by the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

Quote ref: RV335/7785, (19160)

City of Birmingham Polytechnic

SENIOR RESEARCH ASSOCIATE

Applications are invited for the above post from people with appropriate academic and professional qualifications. The person appointed will contribute to the teaching of law across a wide range of courses in business studies and management.

Further details and an application form may be obtained from the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

Thames Polytechnic Incorporating Avery Hill College

RESEARCH POSTS

1. Physical modelling and computer simulation of non-compressible fluids. 2. Numerical modelling of fluid flow in pipes. 3. Numerical modelling of two phase phenomena. 4. Application of knowledge of fluid systems in process analysis and control.

Applications should be sent to the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

University of Edinburgh Department of Mathematics

RESEARCH ASSOCIATE

Applications are invited for the above post from people with appropriate academic and professional qualifications. The person appointed will contribute to the teaching of law across a wide range of courses in business studies and management.

Further details and an application form may be obtained from the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

University of Exeter Department of Engineering Science

RESEARCH ASSISTANT

A graduate Research Assistant is required to work on a project involving the design and construction of a small scale engine. The successful candidate will be responsible for research, data collection, and statistical analysis.

The appointment is for an initial period of two years and the starting salary is £6,864 p.a.

Candidates should forward their curriculum vitae (including the names of three referees) to the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

Quote ref: RV335/7785, (19160)

FOR DETAILS OF ADVERTISING IN THE T.H.E.S. PLEASE RING SUE PELOW 0-253 3000 EXTN. 226

Colleges of Further Education

ilea Inner London Education Authority

SOUTH WEST LONDON COLLEGE Vice-Principal (Resources)

Candidates are invited from experienced and imaginative educationalists with a background in the field of Management and Business Education and knowledge of computers and industry.

Candidates should be graduates and/or professional educationalists with a minimum of 10 years' experience in the field of Management and Business Education. Experience of resource management and admin support would be an advantage.

Salary: Group 7 £21,528 (including £1,038 Inner London allowance).

Further details and form of application returnable by 27th December 1985 from Deputy Admin Officer, South West London College, Tooting Broadway, London SW17 0TD.

ILEA IS AN EQUAL OPPORTUNITIES EMPLOYER

Salford College of Technology DEVELOPMENT POST IN CONSTRUCTION COMPUTING

A New Broad Development post at Salford College of Technology is offered in the Department of Construction and Surveying. The successful candidate will be responsible for research, data collection, and statistical analysis.

Applications should be sent to the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

Cambridge University Library Assistant Under-Librarian

Applications are invited from good honours graduates in Chinese, Research and/or library qualifications also desirable. Experience in an academic library would be an advantage.

Further particulars from the University Librarian, Secretary to the Appointments Committee for the University Library, University Library, West Road, Cambridge, CB3 9PL, to whom applications should be sent within three weeks of the date of this advertisement.

Administration COMMITTEE OF VICE-CHANCELLORS AND PRINCIPALS OF THE UNIVERSITIES OF THE UNITED KINGDOM

Public Relations Officer

The Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom invites applications for the above appointment. The person appointed to this new post will play an essential part in the development of an integrated public relations effort involving the Committee and the individual universities and service. He or she will be expected to have wide experience of public relations. Knowledge of the University world is desirable.

The post is supernumerary under the Universities Superannuation Scheme and will carry a salary of not less than £25,000 per annum including a London Allowance.

Further particulars of the post may be obtained from the Secretary General of the Committee of Vice-Chancellors and Principals at 29 Tavistock Square, London WC1H 9EZ, to whom applications should be made not later than 15 January 1986.

University of Leeds Department of Geography

RESEARCH ASSISTANT

A graduate Research Assistant is required to work on a project involving the design and construction of a small scale engine. The successful candidate will be responsible for research, data collection, and statistical analysis.

The appointment is for an initial period of two years and the starting salary is £6,864 p.a.

Candidates should forward their curriculum vitae (including the names of three referees) to the Deputy Registrar, to whom completed forms should be returned by 8 January 1986.

THE EUROPEAN UNIVERSITY INSTITUTE, FLORENCE

Department of Political and Social Sciences, invites applications for two professorial posts (one at the higher and one at the intermediate level of the salary scale) in the field of POLITICAL AND SOCIAL ENQUIRY.

Appointments are for three years renewable, starting 1 September 1986 or as soon as possible thereafter.

Further information available from The Academic Service, European University Institute, I-50016 S. Domenico di Fiesole (FI), Italy.

Deadline for applications: 3 February 1986.

Overseas

Twente University of Technology

senior university lecturer

A vacancy exists in the group TRANSDUCERS and MATERIALS SCIENCE of the DEPARTMENT OF ELECTRICAL ENGINEERING at the Twente University of Technology, Enschede, the Netherlands for a

Duties: The duties will consist of guidance of and participation in research projects concerning micro-mechanical transducers i.e. sensors and actuators fabricated in silicon using IC technology. The group that is at present working on this subject consists of 6 persons. Individual projects concern the development of force, pressure, temperature, strain and acceleration sensors as well as micro-pumps and resonators.

Participation in tuition within the group by assisting students and graduates and contributing to course education.

Participation in administration and management of the group.

Requirements: The candidate should have experience in scientific research and be capable of systematically carrying it out. The research problems have an interdisciplinary character in which mechanics and electronics play an important part. The ability to use a computer for model design and simulations taken for granted. The lecturer is expected to be able to find the right level of communication between material scientists and engineers and IC designers on the one hand and to teach at the required standard.

A suitable person would be an university graduate who has written a Ph.D. thesis or one who has similar research qualifications. However those who have a different background but have developed an equivalent capability will also be considered. Applicants are not required to have any knowledge of the Dutch language although a successful applicant who cannot speak Dutch would be expected to acquire a working knowledge of the language over the first year of the appointment.

The group: At present there are 35 persons employed in the group Transducers and Materials Science, 20 are regular staff members and 15 are on a temporary basis of which 6 have a contract with an industrial firm. There are 4 research projects, perpendicular magnetic recording, magnetostrictive transducers, optical waveguide sensors and the previously mentioned micro-mechanical transducers. The group makes use of its projects to adapt the whole range of material science research to the design of devices as system components. The group is part of a combined research unit "Sensors and Actuators" and "Material Research". They have at their disposal a modern equipped technological laboratory (thin layer technology, photolithography, micro-machining, IC technology) and a further laboratory for characterizing and testing.

Conditions: The appointment will be as senior university lecturer. The monthly salary is dependent on suitability and between: 14,608 and 19,137 p.p. month. Admission to the pension fund takes place on commencement of employment.

The Twente University aims at a well-balanced man-woman representation for its personnel. In this research field it is emphasized that women who consider themselves suitable for this vacancy are explicitly invited to apply for the position.

Information: Prof. Dr. J.H.J. Fuitman, tel: 01031-5382714 or 01031-53350363 (private) Prof. Dr. Th.J.A. Pijpers, tel: 01031-53892747 or 01031-5333893 (private).

Written applications accompanied by a curriculum vitae, together with a list of publications should be submitted within 2 weeks after publication of this advertisement to the manager of the Department of Electronics, University of Technology, Twente, Postbox 217, 7500 AE Enschede, the Netherlands. (with reference to number 2570/85/877 of the vacant position).

Twente University of Technology and Social Science

AUSTRALIA The Faculty of Social Sciences and Business Is seeking a new DEAN (Re-advised)

RMIT is the largest multi-purpose post-secondary institution in Australia with a staff of 3500 and an enrolment of 27,000 students. The Institute is organised into two colleges, a Technical College and an Advanced College. Tertiary education is offered by the Advanced College through its six faculties and a Graduate School of Management.

Following completion of his contract, the present Dean is returning to the USA and the Faculty of Humanities and Social Sciences is now seeking a person to lead its future development.

The Faculty consists of three departments: HUMANITIES, LIBRARIANSHIP and SOCIAL SCIENCE and has 60 academic staff and 1038 Equivalent Full-time Students and is part of the Advanced College.

Applicants should have a higher degree and an established reputation in a discipline or professional area represented within the Faculty, have had extensive academic and professional experience and significant experience of tertiary teaching, including some at a senior level, which will enable him or her to provide academic and professional leadership to the Faculty.

Applicants should be able to demonstrate and articulate a commitment to the role of a Faculty of Humanities and Social Sciences in an Institute of Technology, especially in the context of RMIT's goals and directions and the Faculty's corporate plan and its strategic conception around the area of communication and information.

In addition, preferred applicants will have clearly demonstrated leadership ability and will be able to demonstrate significant vision and ability to deal with a diverse range of disciplines and vocational areas and will be able to demonstrate a capacity to contribute to the development of the Faculty's research strategy. Effective personal interaction and public presentation skills will be necessary, as will an ability to work in a participative manner towards and within a consensus regarding the basic goals of the Faculty.

The successful applicant will be offered a tenured position within the Institute as Head of School III and a term appointment as Dean of Faculty III for a period of five years with the possibility of further term appointments. Current Annual Salary: (HOSI) A\$67,038 p.a. (HOSII) A\$63,130 p.a.

For further information contact: Dr David Baanland, Associate Director on (613) 680 2002. Applications close 7 February 1986.

A position description should be obtained from Personnel Services by phoning (613) 680 2337 or telex A36406 and quoting Reference 140/01/A; written applications to Senior Appointments Officer.

RMIT Royal Melbourne Institute of Technology Limited

GPO Box 2476V, Melbourne, Vic. 3001.

General Vacancies

ASSISTANT PRODUCERS

Open University Production Centre

Candidates, who must have a good degree in a relevant subject, are required for the following areas: Science (Geology, Biology, Mathematics/Information Technology, Technology and Engineering, Educational Studies (Teacher Education). At least two years post-university experience and the ability to work on a wide range of subject disciplines is essential. Candidates will be required to demonstrate an informed interest in Adult Education and their potential for the production of television and radio programmes. Successful applicants, who will be given production training if necessary, will work on all aspects of the production of radio and television programmes for the Open University and may be required to work on training and educational projects for other agencies.

Salary £9,909 - £13,420 plus allowance of £871 p.a. Based Milton Keynes. Relocation expenses considered.

Contact us immediately for application form (quote ref. 5184/THS and enclose a.s.a.) BBC Appointments, London, W1A 1AA. Tel: 01-627 6799.

Completed application forms must be returned by Friday, 10th January 1986.

BBC

We are an equal opportunities employer

Overseas continued

All advertisements are subject to the conditions of acceptance of Times Newspapers Ltd, copies of which are available on request.

RMIT AUSTRALIA DEPARTMENT OF MECHANICAL AND PRODUCTION ENGINEERING MECHANICAL AND MANUFACTURING SYSTEMS ENGINEERING

Academic Positions (Tenured or Limited Term) The Department of Mechanical and Production Engineering offers a BE (Mechanical Engineering), a BE (Manufacturing Systems Engineering), a Graduate Diploma in Quality Technology and higher degrees by research. The Department currently has one PhD and 14 Masters' candidates. Research interests are at present directed towards problems of national significance in manufacturing and mechanical engineering. These include: Computer Integrated Design, Analysis and Manufacture, Finite Element Analysis, Robotics, and Manufacturing Automation. Additional academic staff are sought with wide experience in research, teaching and administration at the level of some of the above areas. In particular the following senior positions are available:

LECTURER/SENIOR LECTURER IN ENGINEERING MECHANICS Ref. 114/05/A To take a leading part in the further development of the Department's activities in engineering mechanics (including undergraduate teaching and research in selected aspects of statics, dynamics, experimental techniques, engineering computations, computational geometry and geometric modelling. Willingness to develop personal skills and courses in Computer Aided Design is required.

LECTURER/SENIOR LECTURER IN MECHANICAL AND MANUFACTURING SYSTEMS ENGINEERING Ref. 114/19/A To take a leading role in the further development of the Department's activities in Mechanical and Manufacturing Systems, with particular emphasis on the integration of design and manufacture. Expertise in several manufacturing processes or CAD/CAM would be an advantage. Both positions will be offered on a tenured or three-year limited term basis. Applicants should have a good first degree and preferably a higher degree. Industrial, research and consulting experience is necessary for appointment at senior lecturer level.

Salary Ranges: A\$27,233 - \$36,777 (Lecturer) A\$36,541 - \$42,518 (Senior Lecturer)

Applications close: 24 January 1986. Other academic positions are also available and interested persons should contact the Head of Department.

Position Descriptions should be obtained from Personnel Services by phoning 61 3 680 2337 or telex A36406, quoting appropriate reference; written applications to Senior Appointments Officer.

ROYAL MELBOURNE INSTITUTE OF TECHNOLOGY LIMITED GPO Box 2476V, Melbourne, Victoria, Australia, 3001.

THE EUROPEAN UNIVERSITY INSTITUTE, FLORENCE

Department of Political and Social Sciences, invites applications for two professorial posts (one at the higher and one at the intermediate level of the salary scale) in the field of POLITICAL AND SOCIAL ENQUIRY.

Appointments are for three years renewable, starting 1 September 1986 or as soon as possible thereafter.

Further information available from The Academic Service, European University Institute, I-50016 S. Domenico di Fiesole (FI), Italy.

Deadline for applications: 3 February 1986.

PLEASE MENTION THE T.H.E.S. when replying to advertisements